AUBURN UNIVERSITY

FACILITIES DIVISION – DESIGN SERVICES

MEMORANDUM

TO: PREQUALIFIED BIDDERS

FROM: CHUCK ROGERS, DESIGN PROJECT MANAGER
AUBURN UNIVERSITY FACILITIES DIVISION

PROJECT: NATIVE AMERICAN COLLECTION / 11-221

DATE: 4/3/2012

CC: MARK ADERHOLDT / FILE

Addendum No. 1

Please find the attached **Addendum No. 1** for the above referenced project. This information becomes part of the Bid Set Contract Documents upon receipt. Please review and incorporate provided information into your bid accordingly.

The **Bid Date** for this project is Tuesday, April 10, 2012 at 3:00 PM (CDT).

Please let me know if you have any questions or need any additional information.

Auburn University
Native American Collection / Foy Hall
AU Project No. 11-221

Addendum No. 1
April 3, 2012

ADDENDUM NO. 1

General

This Addendum to the Contract Documents is issued prior to award of Contract.

Project Manual

1. Remove the Table of Contents in its entirety and replace with revised Table of Contents (attached herein). Changes to the document are noted in *italic type*.
2. Remove the Special Conditions, in its entirety and replace with revised Special Conditions. (attached herein).
3. Add the Hardware Schedule in its entirety (5 pages, attached herein).
4. Add the Hardware Cut Sheet set, in its entirety (76 pages, attached herein).
5. Add the Equipment Cut Sheet set, in its entirety (31 pages, attached herein).
6. Add Specification Section 13010, Asbestos Removal, including Certificate of Worker's Acknowledgement and Drawing (15 pages, attached herein).

Attachments

1. Table of Contents.
   File name: 00_Table of Contents REV.pdf
2. Special Conditions.
   File name: 24_Special Conditions REV.pdf
3. Hardware Schedule.
   File name: NAC Hardware Schedule.pdf
4. Hardware Cut Sheet Set.
   File name: NAC Hardware Cut Sheets .pdf
5. Equipment Cut Sheet Set.
   File name: NAC Equipment Cut Sheets .pdf
6. Specification Section 13010, Asbestos Removal.
   File name: NAC Asbestos Spec & Drawing.pdf

Auburn University
Native American Collection / Foy Hall
AU Project No. 11-221

Addendum No. 1
April 3, 2012

Drawings

1. Remove the following drawings in their entirety and replace with new drawings as indicated in the List of Drawings on Sheet A0.0. Changes to drawings include addition of abatement design, renumbering of rooms, and HVAC ductwork change.

   A0.0 General Project Information / Drawing Index / General Notes

   A0.1 Existing Conditions & Demolition Plan

   A0.2 Life Safety Plan

   A1.0 Floor Plan / Partition & Door Types & Schedules

   A2.0 Reflected Ceiling Plan / Light Fixture Schedule / Details / Notes

   A3.0 Finish Plan / Finish Schedule / Details / Notes

   A4.0 Equipment Plan / Equipment Schedule / Details / Notes

   AS3 Architectural Specifications

   AS6 Architectural Specifications

   M0.0 Mechanical Plan – Demo

   M1.0 Mechanical Plan

   M3.1 Mechanical Specifications

   P1.0 Plumbing Floor Plans, Sanitary & Water

   E1.0 Electrical & Lighting Plans

End of Addendum

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(AU FUNDED)
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(Revised January 2012)

Native American Collection Foy Hall Basement
Project 11-221

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2. SUPPLEMENTAL INSTRUCTIONS TO BIDDERS 2
AU Form C-2 SIB (November 2011)

3. SALES AND USE TAX EXEMPTION
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4. PROPOSAL FORM
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1. ADVERTISEMENT FOR BIDDER TO REGISTER 3
AND PRE-QUALIFY
(Rev. April 2011)

2. #SPECIAL INSTRUCTIONS TO BIDDERS
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AU FORM C-3A (Rev. 7/29/2008)

4. ATTACHMENT B TO PROPOSAL FORM 2
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II. Conditions of The Contract

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2. ATTACHMENT A TO CONSTRUCTION CONTRACT 2

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A. Project Specific Documents

*1. SPECIAL CONDITIONS** *1*

2. TECHNICAL SPECIFICATIONS on drawings

*3. HARDWARE SCHEDULE** *5*

*4. HARDWARE CUT SHEETS** *76*

*5. EQUIPMENT CUT SHEETS** *31*

*6. 13010 ASBESTOS REMOVAL** *15*

Additional Conditions required by the New Immigration Law (Act 2011-535)
* Revised or added per Addendum No. 1

SPECIAL CONDITIONS

1. TIME OF COMPLETION
   Work in this contract shall be substantially completed by August 1, 2012, assuming the Notice to Proceed is issued as stated below.

2. NOTICE TO PROCEED
   The intended Notice to Proceed is May 1, 2012. In the event that the NTP is later than the stated date, the date of Substantial Completion shall be increased the same number of days the NTP is issued beyond the above date.

3. LIQUIDATED DAMAGES
   See Section 49 of the ABC Form C-8, General Conditions.

4. PROJECT SIGN:
   A project sign is not required for this project.

5. RAIN DAY CLASS:
   For the purpose of granting time extensions due to rain, this project is considered a Class V project.

6. BUILDER'S RISK INSURANCE:
   To be provided by General Contractor.

7. COORDINATION WITH ADJACENT PROJECT:
   General Contractor and its subcontractors shall coordinate with the work being performed simultaneously with AU Project 11-201, Pharmacy Care Systems, in the same space. Contractors shall determine coordinated scope and schedule prior to construction and shall present the coordination plan to the AU Project Manager.

8. GYPSUM BOARD JOINT COMPOUND PRECAUTIONS
   It has been determined that the joint compound used in some of the gypsum board wall assemblies contains trace amounts of less than 1% asbestos. Although this amount is not considered Asbestos Containing Material (ACM) per EPA and OSHA thresholds, the General Contractor is required per OSHA to protect workers from any airborne asbestos exposure.

9. PROJECT SUBMITTALS / SCHEDULE:
   All submittals will be required for this project and a detailed schedule including submittal issue and return dates will need to be prepared and delivered to the AU Project Manager prior to start of construction. The schedule will need to be updated weekly and will be reviewed at weekly on site meetings with the AU PM.

AUBURN UNIVERSITY – NATIVE AMERICAN COLLECTION
ARCHITECTS PRE-LIMINARY HARDWARE SCHEDULE – 03.30.12

IT'S THE VENDORS RESPONSIBILITY TO REVIEW THE ARCHITECTS DRAWINGS AND MODIFY THE SCHEDULE AND CUT SHEETS AS REQUIRED. HEADINGS ARE REFERENCED ON THE DOOR SCHEDULE DRAWING A1.0.

HEADING 1

1 SGL DOOR C103 VESTIBULE RHR

TYPE B - (V.I.F.) X (V.I.F.) FLUSH INSULATED METAL DOOR X HM WELDED FRAME

1 EA	DOOR SWEEP	PEMKO	315CN x 36"
3 EA	HINGES	HAGER	BB1279 X 4.5 X 4.5 X US26D
1 EA	FIRE EXIT HARDWARE	VON DUPRIN	98L-NL-F E996L 3' FS 06 626 (AUBURN TO VERIFY SPEC. & OPTIONS)
1 EA	CLOSER	LCN	4041 DEL X STANDARD FINISH ARM-REGULAR (AUBURN TO VERIFY SPEC. & OPTIONS)
3 EA	SILENCERS	ROCKWOOD	608 X GRAY
1 EA	THRESHOLD	PEMKO	171A x 36"
1 SET	JAMB SEAL	PEMKO	290AS x 2pcs 84"
1 EA	HEAD SEAL	PEMKO	2891AS x 36"
1 EA	POWER SUPPLY	VONDUPRIN	PS861 (AUBURN TO VERIFY SPEC. & OPTIONS)
1 EA	CARD READER	BEST	IDH MAX (SPEC. PROVIDED BY AUBURN) SEE NOTES & COMMENTS BELOW.

HEADING 2

1 SGL DOOR 104 OFFICE LH

TYPE A - 3/0X7/0 FLUSH SCWD DOOR X HM WELDED FRAME

3 EA	HINGES	HAGER	BB1279 X 4.5 X 4.5 X US26D
1 EA	CLASSROOM LOCK	BEST/STANLEY	F84-93K-7-R-15-D-STK-626 (AUBURN TO VERIFY SPEC. & OPTIONS)
1 EA	WALL STOP	ROCKWOOD	406 X US32D
3 EA	SILENCERS	ROCKWOOD	608 X GRAY

HEADING 3

1 SGL DOOR 103 STORAGE LH
1 SGL DOOR 110A STORAGE LHR

TYPE A - 3/0X7/0 FLUSH SCWD DOOR X HM WELDED FRAME

6 EA	HINGES	HAGER	BB1279 X 4.5 X 4.5 X US26D
2 EA	STOREROOM LOCK	BEST/STANLEY	F86-93K-7-D-15-D-STK-626

			(AUBURN TO VERIFY SPEC. & OPTIONS)
2 EA	OH STOP	GLYNN JOHNSON	454S X US32D
6 EA	SILENCERS	ROCKWOOD	608 X GRAY

HEADING 4

1 SGL DOOR 110 WORK AREA LHR

TYPE C - 3/0X7/0 12" LITE SCWD DOOR X HM WELDED FRAME

3 EA	HINGES	HAGER	BB1279 X 4.5 X 4.5 X US26D
1 EA	CLOSER	LCN	1461X DEL X FC X STANDARD FINISH ARM-REGULAR (AUBURN TO VERIFY SPEC. & OPTIONS)
1 EA	CLASSROOM LOCK	BEST/STANLEY	F84-93K-7-R-15-D-STK-626 (AUBURN TO VERIFY SPEC. & OPTIONS)
1 EA	WALL STOP	ROCKWOOD	406 X US32D
3 EA	SILENCERS	ROCKWOOD	608 X GRAY
1 EA	KICKPLATE	ROCKWOOD	K1038 X 12" X 34" X CSK X S. STEEL
1 EA	KICK DOWN HOLDER	ROCKWOOD	461 X US26D

HEADING 5

1 SGL DOOR 110B PREP AREA RHR

TYPE B - 3/0X (V.I.F.) FLUSH HM DOOR X HM WELDED FRAME

3 EA	HINGES	HAGER	BB1279 X 4.5 X 4.5 X US26D
1 EA	CARD READER	BEST	IDH MAX (SPEC. PROVIDED BY AUBURN) SEE NOTES & COMMENTS BELOW.
1 EA	CLOSER	LCN	1461X DEL X FC X STANDARD FINISH ARM-REGULAR (AUBURN TO VERIFY SPEC. & OPTIONS)
3 EA	SILENCERS	ROCKWOOD	608 X GRAY

INOX - GENERAL NOTES & COMMENTS

1. Control sample to be provided to Architect for review and approval.
2. Flush doors will be furnished as VT Industries 5502 series or equal with particleboard core.
3. Interior hollow metal frame will be furnished as 16 gauge, welded, primed for field painting. All doors and frames to have a sprayed vs. brushed final finish.
4. Contractor to verify transitions and doors to be undercut. Where ventilation is required doors to be undercut ½".
5. See A1.0 for additional door, hardware notes and types.
6. Please coordinate with Auburn University Project Manager to determine keying requirements.
7. Hinges will be furnished in US26D satin chrome plated finish. All other hardware US32D satin stainless steel finish, except closers which are furnished in aluminum painted finish to match or where noted to match existing.

AUBURN UNIVERSITY ACCESS CONTROL NOTES & COMMENTS:

*NOTE: This document is for aid in writing specifications for job proposal and is not intended as a Literal Specification. All proposed Access Control specifications must be approved by Auburn University Facilities Maintenance & Operations and AU Access Control Center.

1) All exterior doors shall be **electrified and monitored** by the LENEL system and software and meet the requirements of the Access Control Installation Checklist.

2) At least one exterior door shall have a 2010 card reader.

3) MDF and IDF rooms shall have card reader access and shall have substantial space provided for Access Control and Security systems.

4) MDF and IDF rooms shall only be utilized by Auburn University Department of Information Technology, Auburn University Access Control, and Auburn University Department of Public Safety and Security without express written approval of all parties.

5) Electrified exit devices shall be Von Duprin, EL RX 99/98 Series rim device, Electric Latch Retraction with Request to exit (RQE), with keyed removable center mullions for double egress doors. All electrified doors shall be installed as Night Latch function, so no manual locking is required after hours. NO DOUBLE CYLINDER! NO DOGING DEVICES!

6) All ADA operators shall be LCN 4640 series, mounted on the push side of the door. On any card access door, the door shall have both a swipe reader and a proximity reader to be tied into the LENEL system.

7) Door Closers:
Exterior Doors: LCN 4041 Series **(No Substitutions Allowed)**
Interior Doors: LCN 1461 Series **(No Substitutions Allowed)**
All door closers shall be mounted on the interior side of the room.
All door closers shall be equipped with "Delayed Action" feature.

8) All lock hardware must accept BEST 7 pin, interchangeable cores.

9) All interior door hardware shall be BEST 45H mortise or 9K cylindrical locks.

10) All access control system control panels shall be mounted within a telecom closet. All cabling shall be installed as to "Home Run" back to this area. Proper room shall be allocated for necessary equipment. Circuits supplying AC voltage to the access control system shall NOT provide power to any other system or devices.

11) Any door that is monitored by access control system, but does not have a card reader shall have a PIR (Motion Detector) or RQE (request to exit) device to mask exiting traffic.

12) All power supplies and access control support systems shall be installed and connected to the buildings Emergency Back-up Generator in addition to Battery Back-up.

13) Magnetic locks (mag locks) and/or Electric strikes shall **NOT** be used.

14) All Access Control power supplies shall be clearly labeled as to the door designation, electrical panel, and circuit number from which it is supplied.

15) Doors and frames shall accept an EPT (Electrified Power Transfer). Electrified hinges should not be used.

END OF DOCUMENT

STANLEY®
Security Solutions

9K SERIES

HEAVY DUTY LOCKS - LEVERS

STANLEY BEST ACCESS SYSTEMS

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How to Order	3	9K Sample Specifications	10
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Options/Features	5	Deadlocking Latches	11
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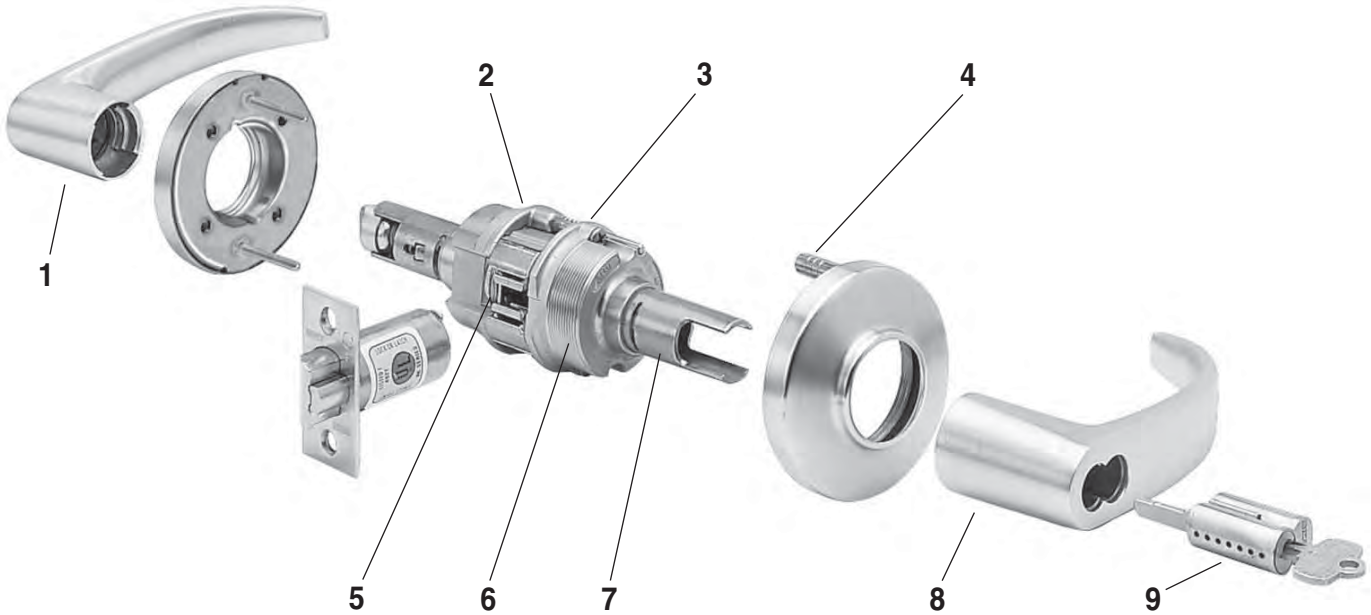
FEATURES

1. For versatile applications, lever by knob trim variations are available.
2. Rose locking pin and rose assembly design offers great torque resistance. It prevents the locking pin from twisting, bending, or breaking under attack.
3. The innovative design of the slotted key release cam and locking lug assembly create maximum attack resistance. Even though damaged, the lock still allows key access. In addition, the lever is fully functional from the inside.

   The hub-mounted torsion spring and strong retractor springs help prevent lever sag and offer a smooth and snappy operation.
4. Strong through-bolt mounting studs increase torque resistance.

   Heavy rose liner material is highly attack resistant.
5. Strong retractor springs provide resistance to lever sag.
6. New zinc hubs with a shrouded locking lug, guaranteeing higher quality and increased torque resistance.
7. The outside lever sleeve is a seamless one piece construction made of a hardened steel alloy that provides additional reinforcement in the locking lug slot.
8. Lost Motion feature available allowing lever movement between 45° – 60° without engaging retractor assembly.
9. Interchangeable core allows for quick re-keying and customized masterkeying.



9K – EXPLODED

Certifications – UL Listed:
Listed by Underwriter's Laboratories for use on 3 Hr, A label single swinging doors (4'x10'). GYJT Builders Hardware-single point locks or latches.

American National Standard:
ANSI A156.2, Series 4000 Grade 1
California Fire Code NOA ANSI A250.13 Listed.

Finish – (BHMA)	US	DESCRIPTION
605	3	bright brass
606	4	satin brass
611	9	bright bronze
612	10	satin bronze
613	10B	oxidized satin bronze, oil rubbed
618	14	bright nickel plated
619	15	satin nickel plated
622	19	flat black
625	26	bright chromium plated
626	26D	satin chromium plated
690	20	dark bronze

Backset – 2 3/4" standard, 3 3/4" and 5" available.

Chassis – Critical latch and chassis components are brass or corrosion-treated steel. 2 1/16" diameter to fit 2 1/8" hole in door (Conforms to ANSI A115.2). Lost Motion feature available as an option. (see page 5 for options/features)

Door thickness – Available for 1 3/4" to 2 1/4" doors. Spacers available for 1 3/8" doors.

Latch – Solid brass 9/16" throw. Front 2 1/4" x 1 1/8" beveled.

Lever handles – Lever handles are a high-quality zinc alloy. Trim components are brass or bronze. Body is approximately 1 5/8" in diameter; Handle is approximately 4 3/4" long (from center-line of chassis). #14 and #15 levers conform to California Administrative Code Title 19 and Title 24. All three styles of levers conform to the Illinois Accessibility Standard.

Mounting – In addition to standard door preparation (ANSI A115.2 for 1 3/4" doors), two additional holes are needed for through-bolts. Through-bolts require two 5/16" diameter holes located at 12 o'clock and 6 o'clock positions. A drill jig is provided to insure accuracy of the holes. (see KD303 page 5).

Projection on door – Approximately 2 3/4" when mounted on 1 3/4" door.

Roses –
C - 3" Convex
D - 3 1/2" Convex
K - 3" Convex - no ring
L - 3 1/2" Convex - no ring

Strike– **STK:** Conforms to ANSI A115.2 (2 3/4" x 1 1/8" with curved lip & box). **S3:** Conforms to ANSI A115.2 for 1 3/4" doors (4 7/8" x 1 1/4" with curved lip). **S3-7/8:** Conforms to ANSI A115.2 for 1 3/4" doors (4 7/8" x 1 7/8" flat)

Products protected by one or more of the following patents:

U.S.:			Canada:
D290,085	4,428,212	4,428,570	1,184,773
4,843,852	4,318,558	4,779,908	1,194,057
4,262,507	4,496,178	5,794,472	1,229,358
5,116,170	5,590,555		

Other products patent pending.

HOW TO ORDER

93K	7	AB	15	D	S3	626	
Backset	**Core Housing**	**Function Code**	**Lever Style**	**Rose Style**	**Strike Package**	**Available Finishes***	**Options**
93K– 2 3/4" **94K**– 3 3/4" **95K**– 5"	**0**– keyless **7**– 7 pin housing accepts all Best cores	**AB**– entrance **D**– storeroom **L**– privacy **N**– passage **R**– classroom **Etc.**	**14**– curved return **15**– contour angle return **16**– curved no return	**C**– 3" convex **D**– 3 1/2" convex **K**– 3" convex - no ring **L**– 3 1/2" convex - no ring	**STK**– 2 3/4" ANSI **S3**– 4 7/8" ANSI **S3– 7/8-** 7/8" flat strike	**605 606 611 612 613 618 619 622 625 626 690**	**AL**– abrasive lever **LL**– lead lined **LM**– lost motion **RQE**– request to exit **SH**– security head screws **TL**– tactile lever **3/4**– 3/4" throw latch **7/8" LTC**– flat lip strike **NOTE:** specify inside (I), outside (O), or both (B) for AL,TL options
		pages 6-9	pages 4-5	pages 4-5	page 11		page 5

* Handles are made from a zinc alloy, and have been plated to be equivalent in appearance to the finishes listed. For information on 9K non IC products please refer to Best's non-IC keying products brochure.

TRIM VARIATIONS

14C

15C

16C

14D

15D

16D

14K

15K

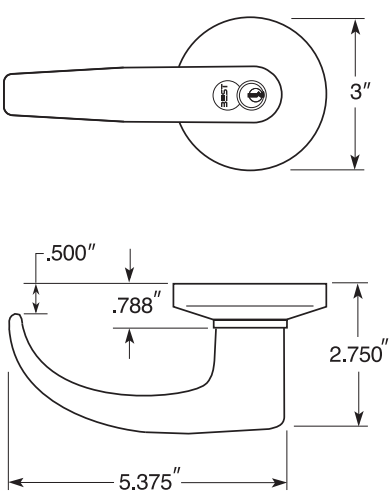
16K

14L

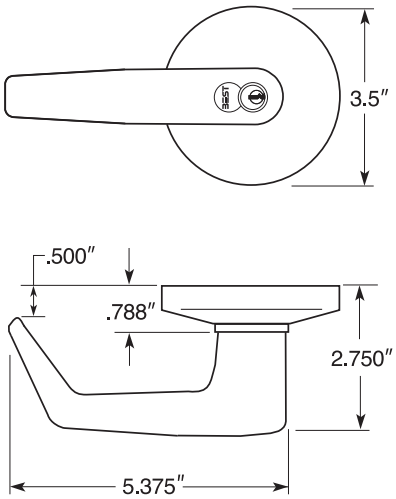
15L

16L

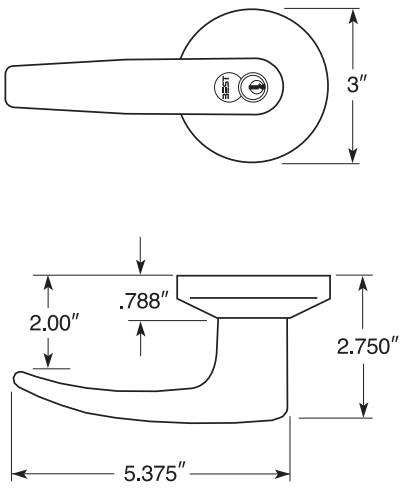
LEVER & TRIM DIMENSIONS



#14C or #14K Trim
("C" rose shown)



#15D or #15L Trim
("D" rose shown)



#16C or #16K Trim
("K" rose shown)

STANLEY BEST ACCESS SYSTEMS

Abrasive Lever Option

Besides complying with a wide variety of accessibility codes and ordinances, Best Access Systems lever handles are available with a special abrasive feature. Abrasive strip on the lever immediately identifies warnings on doors to hazardous areas for the blind. **To order:** Designate **"AL"** on How to Order (page 3). **Note:** abrasive strip is available on all levers, except #14, #15, #16 levers in 613 finish.

Lost Motion Feature

The Lost Motion feature allows the lever handle to move 45 degrees from parallel to the horizontal plane without engaging the latchbolt assembly. When the lockset is in the locked mode, this feature makes over-torque or over-lever-age abuse more difficult to achieve. **To order:** designate **"LM"** on How to Order (page 3).

Non IC Lever Option

The 9K heavy duty cylindrical lock may be adapted to existing keying systems by using a special retrofit lever and throw member that will accept 6 pin single shear-line cylinders from non BEST manufacturers. No internal modifications are required to adapt the 9K to cylinders from the following manufacturers: Corbin-Russwin, Medeco, Sargent, Schlage, Yale. Refer to non-IC Best keying products brochure for more details.

RQE Feature

The 9K lever handle cylindrical can be supplied with a request-to-exit (RQE) switch. A normally open switch provides momentary switch closure when the inside lever is rotated. **To order:** designate **"RQE"** on How to Order (page 3).

Tactile Lever Option

Tactile levers may be used in areas where improved grip is required or as a warning in hazardous areas. Grooves are machined into the back of the hand grasp portion of the lever to improve grip and/or to provide a sensory warning in hazardous areas. This option can be used for Blind, Safety or Accessibility applications. **To order:** Designate **"TL"** on How to Order (page 3).

KD303 THROUGH-BOLT DRILL JIG

Special accessory jig aids in aligning 5/16" holes for through-bolt mounting. Install the latch first, then insert jig in 2 1/8" bored hole, align with door edge and drill with 5/16" drill bit. A drill jig is included 1 per every 9 locksets with your order**.** Additional jigs are available upon request.

To order: designate **KD303.**

KD303-9K

KD304A BORING JIG KITS

The **KD304A** jig kit is made for boring cut outs in wooden doors for ANSI A156.2 series cylindrical/tubular locksets, doors 1 3/8" to 2 1/4" thick. The **KD304A** kit includes the boring jig (to drill wood doors for 2 3/8", 2 3/4", 3 3/4" and 5" backsets), adaptor for 3/8" drill chuck, **KD309**: 2 1/8" bit, **KD318**: 1" dia. x 9" bit, **KD312**: face plate marking chisel 1", **KD315:** face plate marking chisel 1 1/8", and the **KD325**: strike plate locating pin.

To order: complete kits specify **KD304A Kit.** All of the individual kit parts listed above may be ordered separately except for the adaptor chuck and jig.

KD304A
(Complete kit)

KD315 FACE PLATE MARKING CHISEL
KD325 PLATE LOCATING PIN

The **KD315** faceplate marking chisel locates the mortising for the faceplate of ANSI A156.2 (1 1/8" x 2 1/4") cylindrical lockset. A strike plate locating pin **KD325** is available for use in conjunction with ANSI A156.2 cylindrical locksets.

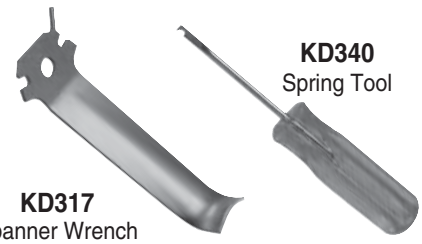
To order: designate **KD312** faceplate marking chisel **(1"), KD315** faceplate marking chisel **(1 1/8"), KD325** strike plate locating pin.

KD315 **KD325**

KD317 SPANNER WRENCH
KD340 SPRING TOOL

All 9K locksets require the use of **KD317** spanner wrench for door mounting. This tool is included 1 per every 9 locksets with your order. If more are needed, designate **KD317** on your order. The **KD340** lever return spring tool with its unique design feature is used when replacing the 9K lever return spring.

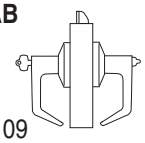
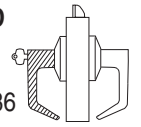
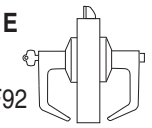
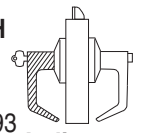
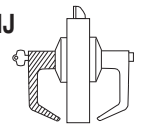
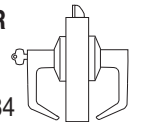
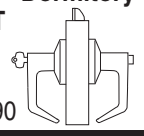
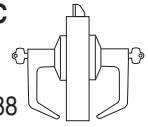
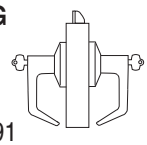
To order: designate **KD340.**



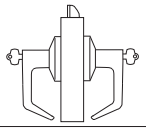
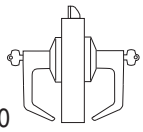
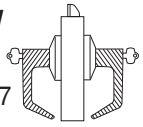
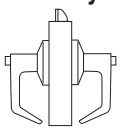
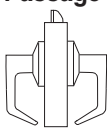
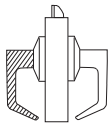
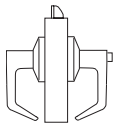
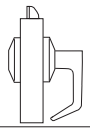
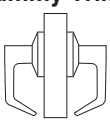
KD340
Spring Tool

KD317
Spanner Wrench

FUNCTIONS

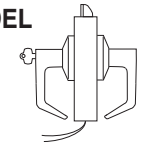
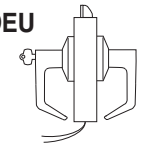
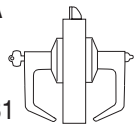
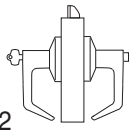
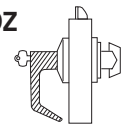
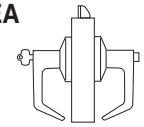
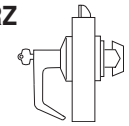
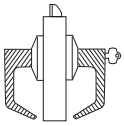
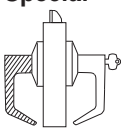
Function & Diag. (ANSI No.)	Description	Outside Lever		Inside Lever	
	Latch operated by	Locked by	Unlocked by	Locked by	Unlocked by
Single Keyed					
Entrance **AB**  F109	• Rotating the inside lever, • Rotating the outside lever—only when the inside push button is out, • Turning the key in the outside lever	• Pushing the inside button, • Pushing and turning the inside button. Turning the button keeps the outside lever locked until the button is turned back	• Turning the key in the outside lever, (only when the button is not turned) • Rotating the inside lever, (only when the button is not turned). • Closing the door (only when the button is not turned)	Cannot be locked	Always unlocked
Storeroom **D**  F86	• Turning the key in the outside lever, • Rotating the inside lever	Always fixed	Cannot be unlocked	Cannot be locked	Always unlocked
Service Station **E**  F92	• Rotating the inside lever, • Rotating the outside lever-only when the inside push button is out. • Turning the key in the outside lever	• Pushing the inside button, • Pushing and turning the inside button. Turning the button keeps the outside lever locked until the button is turned back	• Turning the key in the outside lever, • Rotating the inside lever, • Closing the door-only when the button is not turned, • Turning back the slotted button	Cannot be locked	Always unlocked
Hotel Guest Rm. **H**  F93 **Indicator Included**	• Rotating the inside lever, • Turning the key in the outside lever-only when the inside push button is out, • Removing the core with a control key and using a special emergency key	Always fixed	**Key block feature is released by:** • Rotating the inside lever, • Closing the door	Cannot be locked	Always unlocked
	Pushing the inside button projects an "occupied" indicator in the outside lever and blocks all operating keys.				
Hotel Guest Rm. **HJ**  **No Indicator**	• Rotating the inside lever, • Turning the key in the outside lever-only when the inside push button is out, • Removing the core with a control key and using a special emergency key	Always fixed	**Key block feature is released by:** • Rotating the inside lever, • Closing the door	Cannot be locked	Always unlocked
	Pushing the inside button blocks all operating keys, but ***no*** "occupied" indicator is projected.				
Classroom **R**  F84	• Rotating the inside lever, • Turning the key in the outside lever, • Rotating the outside lever when not locked by key	Turning the key in the outside lever	Turning the key in the outside lever	Cannot be locked	Always unlocked
Dormitory **T**  F90	• Rotating the inside lever, • Rotating the outside lever when not locked by key or push button	• Turning the key in the outside lever, • Pushing the button on the inside lever	• Turning the key in the outside lever, • Rotating the inside lever (only when locked by push button), • Closing the door (only when locked by push button)	Cannot be locked	Always unlocked
Double Keyed*					
Corridor **C**  F88	• Rotating the inside lever, • Rotating the outside lever when not locked by key, • Turning the key in the outside lever	Turning the key in the inside lever	Turning the key in the inside lever	Cannot be locked	Always unlocked
Storeroom * **G**  F91	• Rotating the outside lever when not locked by key, • Rotating the inside lever when not locked by key	• Turning the key in the inside lever, • Turning the key in the outside lever	• Turning the key in the inside lever, • Turning the key in the outside lever	• Turning the key in the inside lever, • Turning the key in the outside lever	• Turning the key in the inside lever, • Turning the key in the outside lever
	Turning the key in either the inside or the outside, locks or unlocks both sides.				

***ATTENTION:** Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.

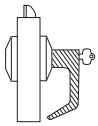
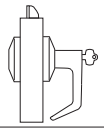
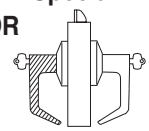
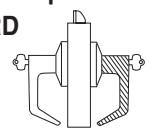
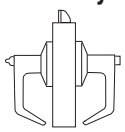
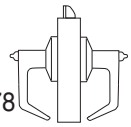
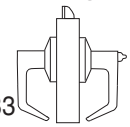
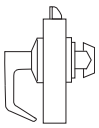
Function & Diag. (ANSI No.)	Description	Outside Lever		Inside Lever	
	Latch operated by	Locked by	Unlocked by	Locked by	Unlocked by
Double Keyed (Continued)					
Intruder IN 	• Rotating inside lever, • Rotating outside lever only when not locked by inside or outside key	• Turning key in the inside lever, • Turning the key in the outside lever	• Turning key in the inside lever, • Turning the key in the outside lever	Cannot be locked	Always unlocked
Communicating* S F80 	• Turning the key in the inside lever, • Turning the key in the outside lever, • Rotating the inside or outside lever (if unlocked)	Turning the key in the outside lever	Turning the key in the outside lever	Turning the key in the inside lever	Turning the key in the inside lever
	Turning the key in either lever, locks or unlocks its own lever independently.				
Institutional* W F87 	• Turning the key in the inside lever, • Turning the key in the outside lever	Always fixed	Cannot be unlocked	Always fixed	Cannot be unlocked
Keyless					
Privacy L F76 	• Rotating the inside lever • Rotating the outside lever only when the inside push button is out	Pushing the inside button	• Rotating the outside slotted button, • Rotating the inside lever, • Closing the door.	Cannot be locked	Always unlocked
Passage N F75 	• Rotating the inside lever, • Rotating the outside lever	Cannot be locked	Always unlocked	Cannot be locked	Always unlocked
Exit NX F89 	Rotating the inside lever	Always fixed	Always fixed	Cannot be locked	Always unlocked
Patio P F77 	• Rotating the inside lever, • Rotating the outside lever only when the inside push button is out	Pushing the inside button	• Rotating the inside lever, • Closing the door	Cannot be locked	Always unlocked
Exit Y 	Rotating the inside lever			Cannot be locked	Always unlocked
Single Dummy Trim 1DT	This is a single, surface-mounted lever for an inactive door or a non-latching door				
Double Dummy Trim 2DT 	This is a through bolt mounted pair of matching levers for an inactive door or a non-latching door				

***ATTENTION:** Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.

FUNCTIONS

Function & Diag. (ANSI No.)	Description	Outside Lever		Inside Lever	
	Latch operated by	Locked by	Unlocked by	Locked by	Unlocked by
Electromechanical					
Electrically Locked DEL 	• Rotating the inside lever, • Rotating the outside lever only when power is off, • Turning the key in the outside lever	• Applying 24 Volts DC. • Outside lever remains locked only while power is on	Switching off 24 Volts DC	Cannot be locked	Always unlocked
Electrically Unlocked DEU 	• Rotating the inside lever, • Rotating the outside lever only when power is on, • Turning the key in the outside lever	Switching off 24 Volts DC	• Applying 24 Volts DC • Outside lever remains unlocked only while power is on	Cannot be locked	Always unlocked
Special					
Dormitory or Storeroom A F81 	• Rotating the inside lever, • Rotating the outside lever only when inside turn button is in unlocked position, • Turning the key in the outside lever	Turning the inside button	Turning the inside button	Cannot be locked	Always unlocked
	NOTE: Turn button must be manually rotated to unlock the outside lever.				
Office B F82 	• Rotating the inside lever, • Rotating the outside lever only when inside push button is out, • Turning the key in the outside lever	Pushing the inside button	• Turning the key in the outside lever, • Rotating the inside lever	Cannot be locked	Always unlocked
	NOTE: Push button is released by turning the key in the outside lever, OR rotating the inside lever. Closing the door does not release the push button.				
Closet or Storeroom DZ 	• Turning the key in the outside lever, • Turning the inside closet turn knob	Always fixed	Cannot be unlocked	Closet turn knob cannot be locked	Closet turn knob always free
Entrance or Office EA 	• Rotating the inside lever, • Rotating the outside lever only when inside push button is out, • Turning the key in the outside lever	• Pushing the inside button, • Pushing and turning the inside button. Turning the slotted button keeps the outside lever locked until the button is turned back	• Turning the key in the outside lever, • Rotating the inside lever, • Turning the slotted button back	Cannot be locked	Always unlocked
Closet or Storeroom RZ 	• Turning the key in the outside lever, • Turning the inside closet turn knob, • Rotating the outside lever when not locked by key	Turning the key in the outside lever	Turning the key in the outside lever	Closet turn knob cannot be locked	Closet turn knob always free
Special* XD 	Turning the key in the inside lever	Always fixed	Cannot be unlocked	Always fixed	Cannot be unlocked
Special* XR 	• Turning the key in the inside lever, • Rotating the inside lever when not locked by key	Always fixed	Cannot be unlocked	Turning the key in the inside lever	Turning the key in the inside lever

***ATTENTION:** Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.

Function & Diag. (ANSI No.)	Description	Outside Lever		Inside Lever	
	Latch operated by	Locked by	Unlocked by	Locked by	Unlocked by
Special (Continued)					
Exit * **YD** 	Turning the key in the inside lever			Always fixed	Cannot be unlocked
Special * **YR** 	• Turning the key in the inside lever, • Rotating the inside lever when not locked by key			Turning the key in the inside lever	Turning the key in the inside lever
Special * **DR** 	• Rotating the inside lever only when not locked by key, • Turning the key in the outside lever, • Turning the key in the inside lever	Always fixed	Cannot be unlocked	Turning the key in the inside lever	Turning the key in the inside lever
Special * **RD** 	• Rotating the outside lever only when not locked by key, • Turning the key in the outside lever, • Turning the key in the inside lever	Turning the key in the outside lever	Turning the key in the outside lever	Always fixed	Cannot be unlocked
Hospital Privacy **LL** 	• Rotating the inside lever, • Rotating the outside lever only when the inside push button is out	Pushing the inside push button	• Turning the turn button in the outside lever, • Rotating the inside lever, • Closing the door	Cannot be locked	Always unlocked
Communicating* **M**  F78	• Rotating the inside lever-only when the outside turn button is in the unlocked position, • Rotating the outside lever-only when the inside turn button is in the unlocked position	Turning the inside turn button	Turning the inside turn button	Turning the outside turn button	Turning the outside turn button
	NOTE: Do not use this function for rooms that have no other entrance.				
Exit **Q**  F83	• Rotating the inside lever, • Rotating the outside lever-only when the inside turn button is in the unlocked position	Turning the inside turn button	Turning the inside turn button	Cannot be locked	Always unlocked
Closet **Z** 	• Rotating the outside lever, • Turning the inside closet turn knob	Cannot be locked	Always unlocked	Closet turn knob cannot be locked	Closet turn knob is always free

***ATTENTION:** Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.

SHIPPING WEIGHTS

The chart is the approximate shipping weight for the standard 9K functions locksets. This weight includes the weight of the lockset with the "#15" style lever, "K" style rose, latch, strike package, and box. Listed separately are the approximate weights for "with core" and "less core" shipments.

LOCK FUNCTION NOMENCLATURE	CASE QUANTITY	SHIPPING WEIGHT-WITH CORE	SHIPPING WEIGHT-LESS CORE
Y	9		31 lbs.
N	9		40 lbs.
L,NX,P	9		40 lbs.
AB,D,E,H,HJ,R,T	9	42lbs.	40 lbs.
C,G,IN,S,W	9	44 lbs.	40 lbs.

ACCEPTABLE MANUFACTURERS

A. Locksets and Latchsets

Stanley/Best - No Substitution.

1. Locksets and latchsets: ANSI A156.2, Series 4000, Grade 1 UL listed, extra heavy-duty cylindrical type.
2. Backset 2 3/4 inches (70mm)
3. Interchangeable core 7-pin: [Restricted keyway] [Patented] [Standard] [_____].
4. Locksets to have anti-rotational studs that are through-bolted.
5. Keyed lever with no exposed keeper hole.
6. Each lever to have independent spring mechanism designed to control lever only.
7. Outside lever sleeve seamless, 1-piece construction, hardened steel alloy.
8. Keyed Lever: Removable only after core is removed, by authorized control key, to allow access to knob keeper.
9. Hub, side plate, anti-rotational studs 1-piece casting with shrouded locking lug.

B. Keys and Keying

A. Cylinders: 7-pin, interchangeable core and keyed into a [New] [Existing] factory registered Grand Masterkey System with a [Standard] [Restricted] [Patented] keyway.
1. Acceptable Material: Cylinders as manufactured by Best Access Systems.

B. Provide construction cores and keys during construction period. Construction control and operating keys and cores are not part of permanent keying system or furnished on same keyway (or key section) as permanent keying system.

C. Permanent Keys and Cores: Prepare permanent cores and keys in accordance with keying schedule. [Stamp with applicable key mark for identification.] [Do not stamp.] [_____].

D. Provide Grand Masterkeys, Masterkeys and other Security Keys.

E. Furnish keys in the following quantities:
1. [4] [_____] each Grand Masterkeys.
2. [4] [_____] each Masterkeys per set.
3. [2] [_____] each Change keys each keyed core.
4. [6] [_____] each Construction masterkeys.
5. [2] [_____] each Control keys.
6. Install permanent cores in locksets.

F. Return construction cores to [{Best} factory representative] [Hardware manufacurer's representative].

MX8 – PATENTED KEYING SYSTEM

One of the greatest threats to key control within your facility is the unauthorized duplication of keys; one simple solution is the use of the MX8 Patented Keying System by Stanley-Best Access Systems a patent-protected keying system.

Very seldom can a single product meet all of your exact needs, and often your level of convenience must be sacrificed to fit the capabilities of the product. The MX8 Patented Keying System provides you with an significant amount of flexibility, enabling a solution that fits your unique balance between security and convenience.

The MX8 Patented Keying System is available in two series of keyways, the M Series and the X Series. Each series offers a different blend of features to help you maximize convenience while optimizing your security.

MX8 Key & Core

The MX8 Patented Keying System has the ability to provide geographic exclusivity to the customer.

M Series Keyway Features

- Patented keys operate both MX8 and Standard BEST cores (backward compatibility) with existing BEST keyways (JKLM only). Standard keys do not operate MX8 cores.
- Available in large bow, long blade, and long nose key blanks to work with special applications.
- Available in core designs for use in special application locks, such as high security mortise, hotel cylinders, and glass display-case locks.
- Utilizes the same combinating kits and key cutting equipment as the Standard BEST keyways.
- M Series keys operate MX8 cores and Standard (non-patented) BEST cores. Standard key blanks do not operate MX8 cores.

X Series Keyway Features

- Distinctive key design includes thicker key blanks with larger bow for added strength and easier handling.
- Keyways are unique to MX8 Patented Keying System offering even higher key duplication protection.
- Requires only minor modifications to key cutting equipment to accommodate new keyways. X Series keyways utilize the standard combinating kit, minimizing the expense of system changeover.
- X Series keys only operate MX8 cores.

8KL3 Deadlocking Latch

Bolt throw– 9/16″
Backset– 2 3/4″
Front– 2 1/4″ x 1 1/8″ beveled.
Tube– To fit 1″ diameter hole in door edge.
To order: (wit h unit) designate “93K” on How to Order (page 3).
To order: (without unit) designate “8KL3-SL” (Spring Latch) or DL (Deadlocking Latch) and finish.

8KL4 Deadlocking Latch

Bolt throw – 9/16″
Backset– 3 3/4″
Front– 2 1/4″ x 1 1/8″ beveled.
Tube– To fit 1″ diameter hole in door edge.
To order: (with unit) designate “94K” on How to Order (page 3).
To order: (without unit) designate “8KL4-SL" (Spring Latch) or DL (Deadlocking Latch) and finish.

8KL5 Deadlocking Latch

Bolt throw– 9/16″
Backset– 5″
Front– 2 1/4″ x 1 1/8″ beveled.
Tube– To fit 1″ diameter hole in door edge.
To order: (with unit) designate “95K” on How to Order (page 3).
To order: (without unit) designate “8KL5-SL” (Spring Latch) or DL (Deadlocking Latch) and finish.

8KS3-7/8

8KS3–7/8 Flat Strike

Dimension: Conforms to ANSI A115.2 for 1 3/4″ doors (4 7/8″ x 1 7/8″ flat)
To order: (with unit) designate “S3-7/8” on How to Order (page 3).
To order: (without unit) designate 8KS3-7/8 and finish.

8KS3

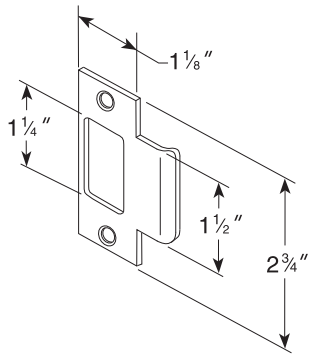
8KS3 Strike

Dimension: Conforms to ANSI A115.2 for 1 3/4″ doors (4 7/8″ x 1 1/8″ with curved lip).
To order: (with unit) designate “S3” on How to Order (page 3).
To order: (without unit) designate 8KS3 and finish.

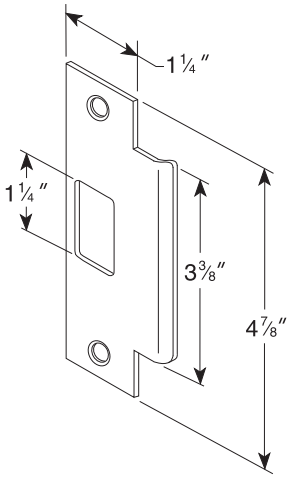
8KS2

8KS2 Strike (Supplied Standard)

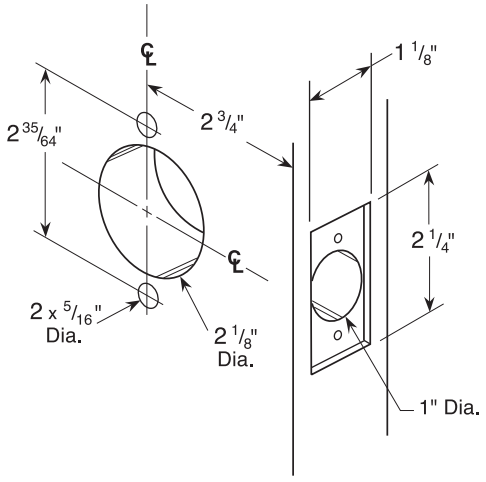
Dimension: Conforms to ANSI A115.2 for 1 3/8″ doors (2 3/4″ x 1 1/8″ with curved lip and box).
To order: (with unit) designate “STK” on How to Order (page 3).
To order: (without unit) designate 8KS2 and finish.



STK strike (standard)



S3 strike



9K door preparation with through-bolt mountings

For more information on Stanley Security Solutions' products, services, and office locations visit our web site at www.stanleysecuritysolutions.com

Product information contained in this catalog has been compiled and presented with as much care and completeness as is reasonably possible. Errors or mistakes may be present, and in many cases, reliance has been placed on information supplied by other manufacturers which may be in error or which may be subject to changes or modifications by the manufacturer without notice and without obligation. Therefore, no guarantee can be made or should be assumed or implied with regards to product information contained in this catalog.

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Security Solutions

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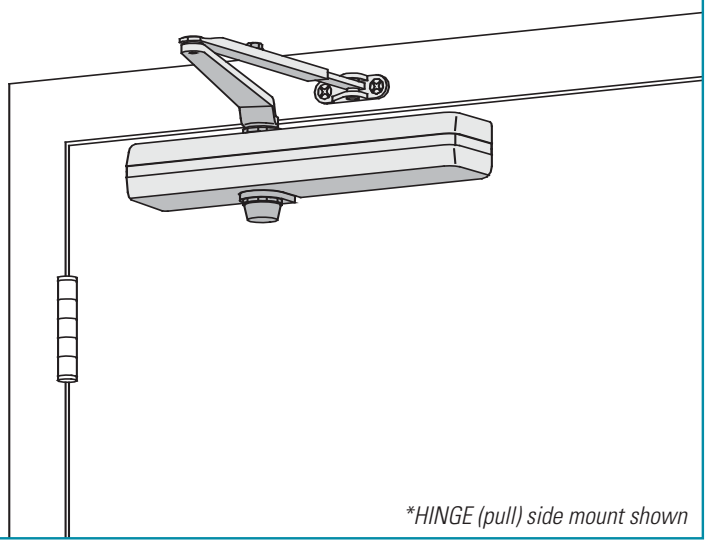
7.5M R709FP
BAS008

LCN 1460 SERIES

FEATURES

CLOSER MOUNTS
***HINGE (PULL) SIDE**
TOP JAMB (PUSH SIDE)
PARALLEL ARM (PUSH SIDE)



**HINGE (pull) side mount shown*

Designed for maximum versatility, the 1460, available with multiple cover options, can be used for both commercial and institutional applications. This fully universal closer offers a wide variety of options and new fast and accurate installation.

UL and cUL listed for self-closing doors without hold-open. Tested and certified under ANSI Standard A156.4, grade one.

- Standard 1460 series closer shipped with regular arm, a slim line plastic cover, and self reaming and tapping screws. See 1460 Series Pages 16 & 17 for options.
- Multiple cover options include; Standard (Slim line), Full and Designer Series.
- Non-sized (1-6) cylinder is adjustable for interior doors to 5'0" and exterior doors to 4'0".
- Closer mounts hinge side, top jamb and parallel arm on either right or left swinging doors.
- Closer meets ADA requirements. See 1460 Series page 18.
- Standard or optional custom powder coat finish.
- Optional plated finish on Designer Series metal cover, arm and fasteners.
- Optional SRI primer for installations in corrosive conditions.

MOUNTING					FINISH		COVER			CYLINDER				*ARM FUNCTION							
HINGE (PULL) SIDE	TOP JAMB (PULL)	TOP JAMB (PUSH)	PARALLEL ARM	STOP FACE	POWDER COAT	PLATED	PLASTIC	METAL	DESIGNER SERIES	NON-HANDED	NON-SIZED	ACCESSIBILITY	DELAYED ACTION	REGULAR (DOUBLE)	STANDARD (SINGLE)	HEAVY DUTY	HOLD-OPEN	EDA/HEDA	CUSH/HCUSH	SCUSH/SHCUSH
●	○	●	●	○	●	●D	●	○	●	●	●	♿	●	180°	○	180°	180°	110°	100°	100°

● *Available*
○ *Not available*
♿ *Closer available with less than 5.0 lbs. opening force on 36" door.*
* *Maximum opening/hold-open point with standard template.*
D = *For Designer series only.*

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LCN 1460 SERIES

MOUNTING DETAILS

HINGE (PULL) SIDE MOUNTING

MAXIMUM OPENING

110°

Ⓐ = 5 7/8" (149 mm)

Ⓑ = 10 7/8" (276 mm)

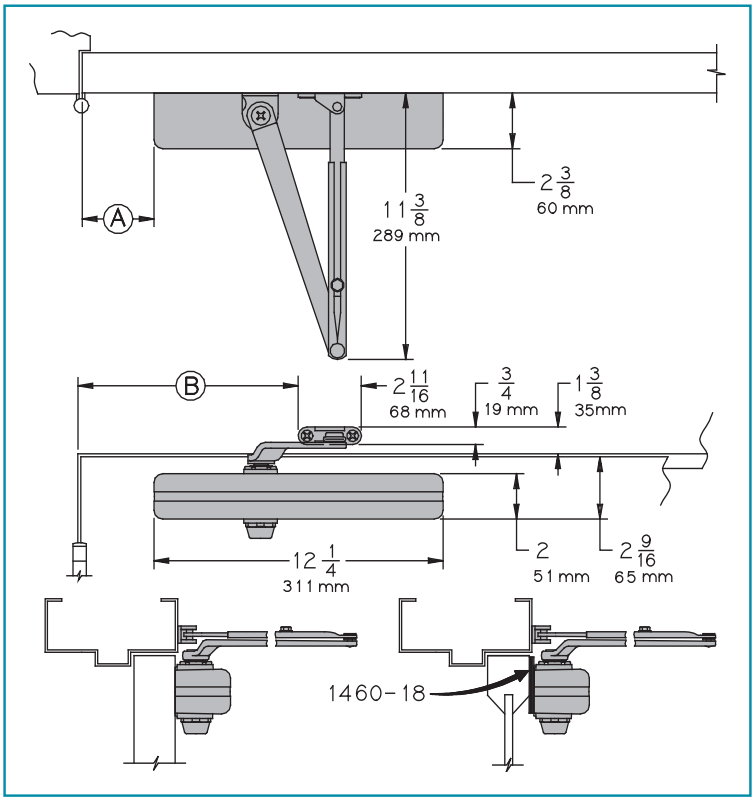
or *180°

Ⓐ = 2 7/8" (73 mm)

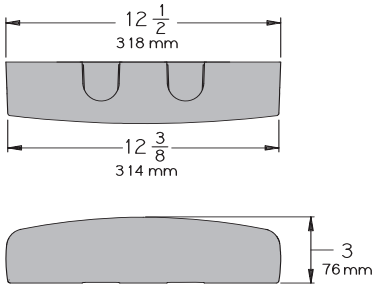
Ⓑ = 7 7/8" (200 mm)

Hold-open points up to maximum opening with hold-open arm.

**Frame and trim permitting.*



Optional, Non-handed Designer Series Metal Cover



Options

►Delayed action cylinder.

►Hold-open arm.

►Full cover. (FC)

►Designer Series metal cover. (DS1)

Special Templates

Customized installation templates or products may be available to solve unusual applications. Contact LCN for assistance.

- **Butt Hinges** should not exceed 5" (127 mm) in width.
- **Auxiliary Stop** is recommended at hold-open point or where a door cannot swing 180°.
- **Reveal** should not exceed 3/4" (19 mm) for regular arm or 1/2" (13 mm) for hold-open arm.
- **Top Rail** less than 2 1/2" (64 mm) requires PLATE, 1460-18. With Full cover, use PLATE, 1460-18FC. Plate requires 1 1/2" (38 mm) minimum. With Designer Series metal cover, use PLATE, 1460-18DS1.
- **Clearance** of 2 3/8" (60 mm) behind door required for installation.
- **Delayed Action** Add suffix "DEL" to selected cylinder (eg. 1461 DEL). Delays closing from 110° to 65° or 160° to 75° depending on templating. Delay time adjustable up to approximately 1 minute.

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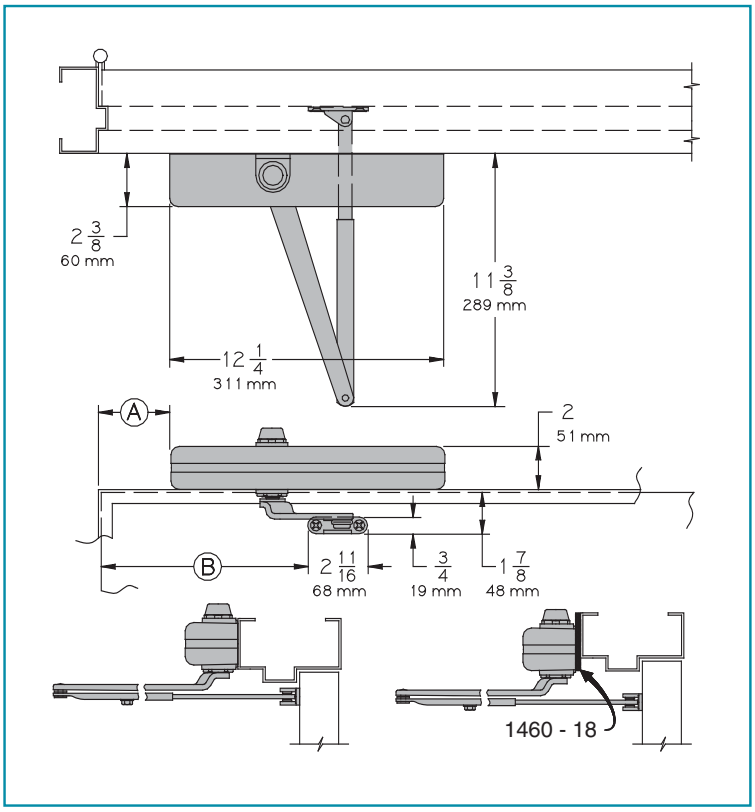


TOP JAMB (PUSH SIDE) MOUNTING

MAXIMUM OPENING

110°

Ⓐ = 6 3/4" (169 mm)

Ⓑ = 11 1/4" (286 mm)

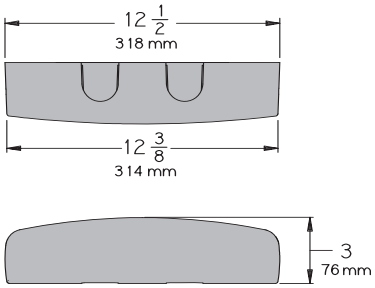
180°

Ⓐ = 3" (76 mm)

Ⓑ = 7 1/2" (191 mm)

Hold-open points up to maximum opening with hold-open arm.

Optional, Non-handed Designer Series Metal Cover



- **Butt Hinges** should not exceed 5" (127 mm) in width.
- **Auxiliary Stop** is recommended at hold-open point or where a door cannot swing 180°.
- **Reveal** of 2 1/2" (64 mm) allows 180° opening with REGULAR HOLD-OPEN ARM. 3 1/2" (89 mm) allows up to 180° opening with REGULAR ARM or 180° with optional LONG HOLD-OPEN ARM when standard head and tube is replaced with optional LONG HEAD AND TUBE, 1460-78HL . 4 7/8" (124 mm) allows up to 140° with REGULAR ARM or LONG HOLD-OPEN ARM. 7" (178 mm) allows up to 140° opening with LONG ARM when standard rod and shoe is replaced with optional LONG ROD AND SHOE, 1460-79LR.
- **Top Rail** requires 1 7/8" (48 mm) minimum.
  2 3/4" (70 mm) minimum with closer on PLATE, 1460-18.
- **Head Frame** less than 1 3/4" (44 mm) requires PLATE, 1460-18.
  For flush ceiling condition with 2" (51 mm) headframe, use PLATE, 1460-18. With Full cover, use PLATE, 1460-18FC.
  Plate requires 1 1/4" (32 mm) minimum. With Designer Series metal cover, use PLATE, 1460-18DS1.
- **Delayed Action** Add suffix "DEL" to selected cylinder (eg. 1461 DEL). Delays closing from 110° to 75° or 180° to 95° depending on templating. Delay time adjustable up to approximately 1 minute.

Options

- Delayed action cylinder.
- Long arm, hold-open arm, long hold-open arm.
- Full cover (FC).
- Designer Series metal cover (DS1).

Special Templates

Customized installation templates or products may be available to solve unusual applications.
Contact LCN for assistance.

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LCN 1460 SERIES

MOUNTING DETAILS

PARALLEL ARM (PUSH SIDE) MOUNTING

Optional mounting requires PA SHOE, 1460-62PA for REGULAR or HOLD-OPEN arms. Add prefix "P" to closer description (e.g. P1461). P1461 closer includes 1460-201 FIFTH HOLE SPACER to support PA SHOE.

MAXIMUM OPENING

Regular or hold-open arm can be templated for 100°

Ⓐ = 4 1/4" (108 mm)

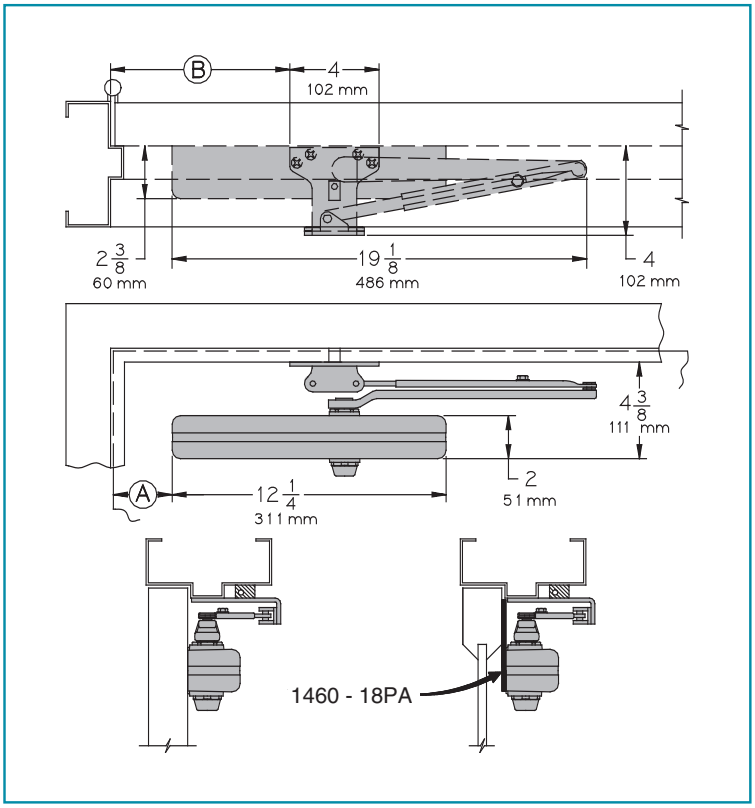
Ⓑ = 9 1/4 (235 mm)

or 180°.

Ⓐ = 1 3/4" (44 mm)

Ⓑ = 6 3/4" (171 mm)

Hold-open points up to maximum opening with hold-open arm.



1460 REGULAR or HOLD-OPEN MOUNT

- **Butt Hinges** should not exceed 5" (127 mm) in width.
- **Auxiliary Stop** is recommended at hold-open point, where a door cannot swing 180°, or where CUSH-N-STOP arm is not used.
- **Clearance** for 1460-62PA shoe is 4" (102 mm) from door face.
- **Top Rail** less than 4 3/8" (111 mm) measured from the stop requires PLATE, 1460-18PA. With Full cover, use PLATE, 1460-18PAFC. Plate requires 1 3/4" (44 mm) minimum. Plate requires 1 1/4" (32 mm) minimum. With Designer Series metal cover, use PLATE, 1460-18PADS1.
- **Head Frame** flush or single rabetted requires PA FLUSH PANNEL ADAPTER, 1461-419.
- **Stop Width** minimum 1" (25 mm).
- **Blade Stop** clearance, requires 1/2" (13 mm) BLADE STOP SPACER, 1460-61.
- **Auxiliary Shoe,** 1460-62A allows installation of regular arm with overhead holder/stop. Special templating required.
- **Delayed Action** Add suffix "DEL" to selected cylinder (eg. P1461 DEL). Delays closing from maximum opening to approximately 75°. Delay time adjustable up to approximately 1 minute.

Options

- Delayed action cylinder.
- Hold-open, EDA, HEDA, CUSH, HCUSH, SPRING CUSH or SPRING HCUSH arm.
- Full cover. (FC)
- Designer Series metal cover. (DS1)

Special Templates

Customized installation templates or products may be available to solve unusual applications.
Contact LCN for assistance.

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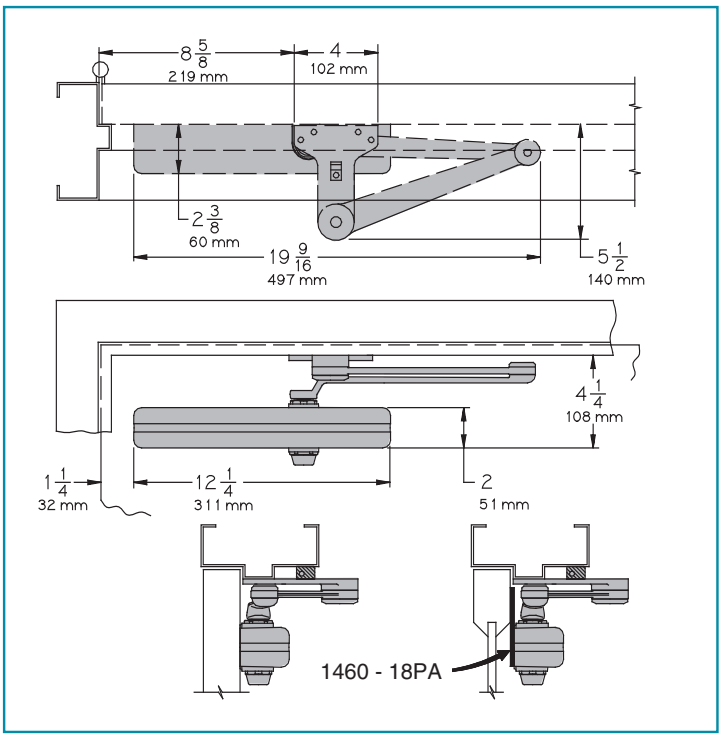
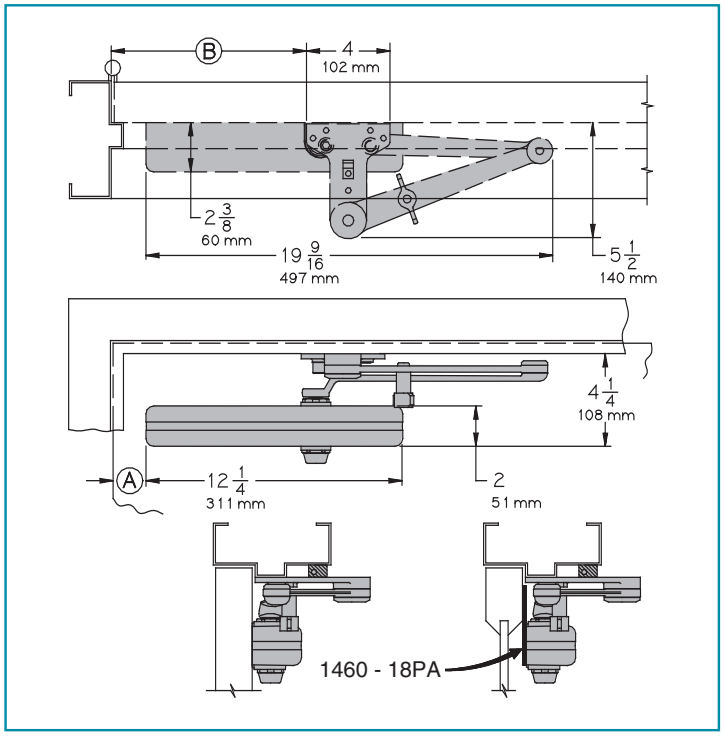
1460 EDA MOUNT



1460 CUSH MOUNT



1460 EDA or CUSH-N-STOP MOUNTING

1460 closers ordered with EDA, CUSH arms include 1460-201 FIFTH HOLE SPACER to support the shoe.

MAXIMUM OPENING

EDA template allows 110°. Hold-open point up to maximum opening.

CUSH arms can be templated for maximum opening/hold-open point at 85°,

Ⓐ = 2 3/8" (60 mm)

Ⓑ = 9 9/16" (243 mm)

90°,

Ⓐ = 1 5/8" (41 mm)

Ⓑ = 9 1/16" (230 mm)

or 100°.

Ⓐ = 5/8" (16 mm)

Ⓑ = 8 1/16" (205 mm)

- **Spring CUSH** hold open points are approximately 5° less than dead stop point.
- **Clearance** for 1460-62EDA or CUSH shoe is 5 1/2" (140 mm) from door face.
- **Head Frame** flush or rabetted requires PA FLUSH PANEL ADAPTER, 1460-419.
- **EDA or CUSH ARM** requires SHOE SUPPORT, 1460-30 for fifth screw anchorage where reveal is less than 3 1/16" (78 mm).

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LCN 1460 SERIES

ACCESSORIES

CYLINDERS

CYLINDER, 1460-3071
Standard, non-handed cast iron cylinder assembly.

ARMS

REGULAR ARM, 1460-3077
Non-handed arm mounts hinge side or top jamb.
P1460 closer includes PA SHOE, 1460-62PA required for parallel arm mounting.

PA SHOE, 1460-62PA
Required for parallel arm mounting.

LONG ARM, 1460-3077L
Optional, non-handed arm includes LONG ROD AND SHOE, 1460-79LR for top jamb mount with deep reveals.

HEAVY DUTY REGULAR ARM, 1460-3077HD
Optional, heavy duty, forged, non-handed arm, mounts hinge side, top jamb or parallel arm.

HEAVY DUTY LONG ARM, 1460-3077HDL
Optional, heavy duty, forged, non-handed arm. Includes long rod and shoe, 1460-79LR for top jamb mounts with deep reveals.

HOLD-OPEN ARM, 1460-3049
Optional, non-handed arm mounts hinge side, top jamb or parallel arm (62PA required).
Hold-open adjustable at shoe.

LONG HOLD-OPEN ARM, 1460-3049L
Optional non-handed arm includes LONG HEAD AND TUBE, 1460-3048L for top jamb mount with deep reveals.

EXTRA DUTY ARM, 1460-3077EDA, 1460-3077EDA/G
Optional, non-handed parallel arm features solid forged steel main and forearm for potentially abusive installations.
Optional 1460-3077EDA/G for blade stop clearance.

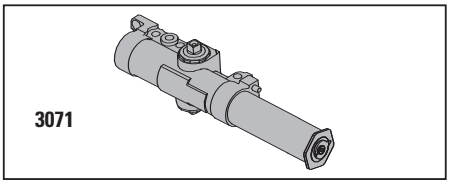
HEDA ARM, 1460-3049EDA
Optional handed arm, provides hold-open function adjustable at shoe.

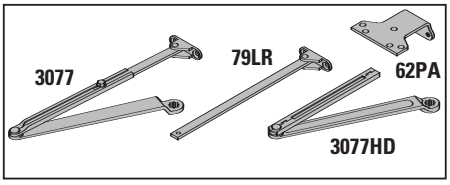
CUSH-N-STOP® ARM, 1460-3077CNS
Optional, non-handed parallel arm features solid forged steel main arm and forearm with stop in soffit shoe.

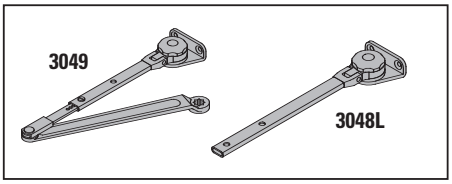
HCUSH ARM, 1460-3049CNS
Optional non-handed arm, provides hold-open function with templated stop/hold-open points. Handle controls hold-open function.

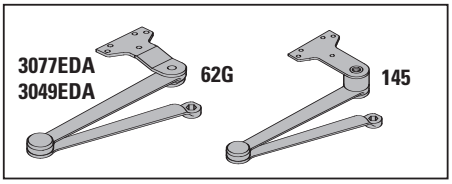
SPRING CUSH ARM,1460-3077SCNS
Optional, non-handed parallel arm for abusive applications features solid forged steel main arm and forearm with spring loaded stop in the soffit shoe.

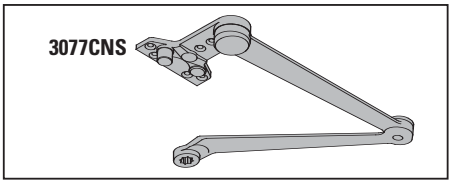
SPRING HCUSH ARM, 1460-3049SCNS
Optional, non-handed parallel arm for abusive applications features solid forged steel main arm and forearm with spring loaded stop in the soffit shoe. Handle controls hold-open function.

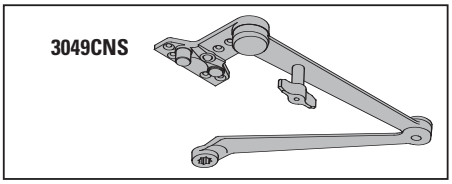


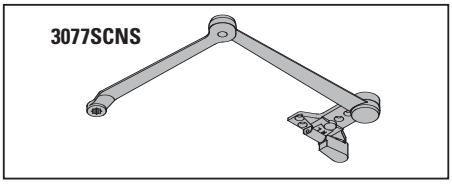


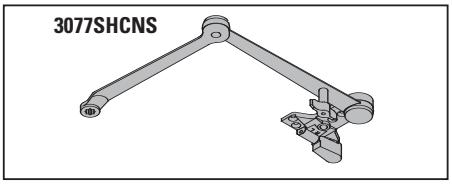












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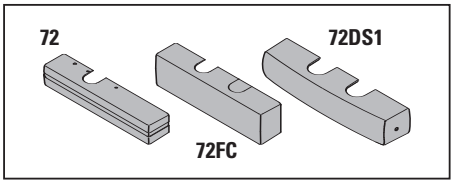
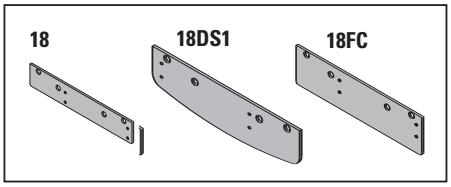
COVERS

COVER, 1460-72
Standard, non-handed, slim line plastic cover with feature strip.

FULL COVER, 1460-72FC
Optional, non-handed, plastic cover provides complete enclosure.

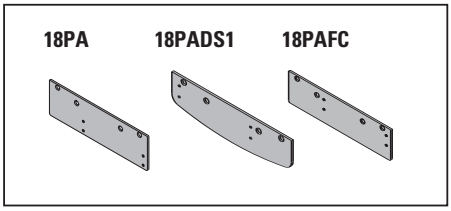
DESIGNER SERIES METAL COVER, 1460-72DS1
Optional, non-handed designer series metal full cover provides complete enclosure with a stylish look. Required for plating and custom powder coat option.



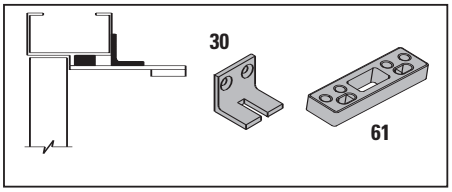


INSTALLATION ACCESSORIES

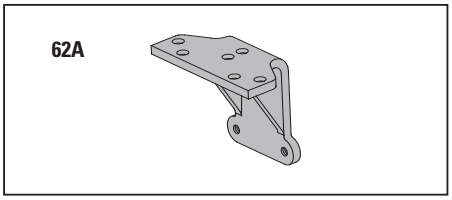
PLATE, 1460-18/1460-18DS1/1460-18FC
Required for hinge side mount where top rail is less than 2 1/2" (64 mm).
Required for top jamb mounting where head frame is less than 1 3/4" (44 mm) or flush ceiling condition exists.
Plate requires minimum 1 1/2" (38 mm) minimum top rail or 1 1/4" (32 mm) head frame.
With full cover, use PLATE, 1460-18FC. With Designer Series metal cover, use PLATE, 1460-18DS1.



PLATE, 1460-18PA/1460-18PADS1/1460-18PAFC
Required for parallel arm mounting where top rail is less than 4 3/8" (111 mm), measured from the stop.
Plate requires 1 3/4" (44 mm) minimum top rail.
With full cover, use PLATE, 1460-18PAFC. With Designer Series metal cover, use PLATE, 1460-18PADS1.

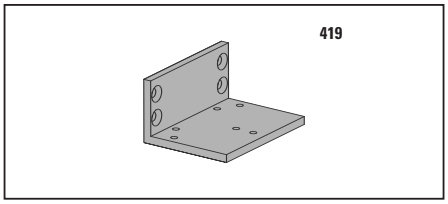


CUSH SHOE SUPPORT, 1460-30
Provide anchorage for fifth screw used with CUSH arms where reveal is less than 3 1/16" (78 mm).



BLADE STOP SPACER, 1460-61
Lowers parallel arm shoe to clear 1/2" (13 mm) blade stop.

AUXILIARY SHOE, 1460-62A requires a top rail of 7" (178 mm).
Optional shoe replaces -62PA for parallel arm mounting of regular arm with overhead holder/stop.
Special template required.



PA FLUSH PANEL ADAPTER, 1460-419
Provides horizontal mounting surface for CUSH, PA or EDA shoe on single rabetted or flush frame.

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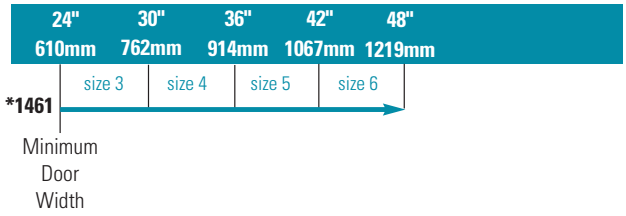
LCN 1460 SERIES

TABLE OF SIZES

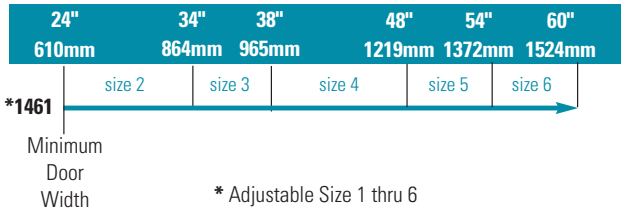
Select closer based on width of door.
The spring power of a 1461 cylinder is field adjustable from size 1 through size 6 and is shipped adjusted to size 3.

→ Indicates recommended range of door width for closer size.

EXTERIOR (and VESTIBULE) DOOR WIDTH



INTERIOR DOOR WIDTH



***** Adjustable Size 1 thru 6

REDUCED OPENING FORCE 1460 CLOSERS

CAUTION ! Any manual door closer, including those certified by BHMA to conform to ANSI Standard A156.4, that is selected, installed and adjusted based on ADA or other reduced opening force requirements may not provide sufficient power to reliably close and latch a door.

Refer to POWER OPERATORS section for information on systems that meet reduced opening force requirements without affecting closing power.

	DOOR WIDTH	36"	42"	48"
	8.5* lbs.	1461	1461	1461
	5.0* lbs.	1461	1461	1461

** Maximum opening force*

HOW-TO-ORDER 1460 SERIES CLOSERS

1. SELECT FINISH

☐ Standard Powder Coat _____
Aluminum, Dark Bronze, Statuary, Light Bronze, Black, Brass.

Closer will be shipped with:
- STANDARD CYLINDER,
- STANDARD COVER,
- REGULAR ARM,
- SELF-REAMING and TAPPING SCREWS, unless options listed below are selected.

CLOSER OPTIONS

CYLINDER
☐ Delayed Action (DEL)

COVER
☐ Full cover (FC)
☐ Designer series metal full cover (non-handed)(DS1)

FINISH
☐ Custom Powder Coat (RAL) _____
(non-handed designer series metal cover required)
☐ Plated Finish, US _____
(non-handed designer series metal cover required)
☐ SRI primer

ARM
☐ Regular w/62PA (Rw/PA)
☐ Long (LONG)
☐ Regular w/62A (Rw/62A)
☐ Hold-Open (H)
☐ Hold-Open w/62PA (Hw/PA)
☐ Long Hold-Open(HLONG)
☐ Heavy Duty (HD)
☐ Heavy Duty w/62A (HD/62A)
☐ Heavy Duty w/62PA (HD/PA)
☐ Heavy Duty Long (HDL)
☐ EDA (optional -62G)
☐ HEDA (specify right or left hand), (optional -62G)
☐ Cush-N-Stop (CUSH)
☐ HCush (HCUSH)
☐ Spring Cush (SCUSH)
☐ Spring HCush (SHCUSH)

OPTIONAL SCREW PACKS
☐ TB* w/Self-Reaming and Tapping Screws (TBSRT)
☐ Wood & Machine Screw (WMS)
☐ TB*, Wood & Machine Screw (TBWMS)
☐ TORX Machine Screw (TORX)
☐ TB* & TORX Machine Screw (TBTORX)
* Specify door thickness if other than 1 3/4".

SPECIAL TEMPLATE
☐ ST- _____

INSTALLATION ACCESSORIES
☐ Plate, 1460-18
☐ Plate, 1460-18DS1
☐ Plate, 1460-18FC
☐ Plate, 1460-18PA
☐ Plate, 1460-18PADS1
☐ Plate, 1460-18PAFC
☐ CUSH Shoe Support, 1460-30
☐ Blade Stop Spacer, 1460-61
☐ Auxiliary Shoe, 1460-62A
☐ PA Flush Panel Adapter, 1460-419

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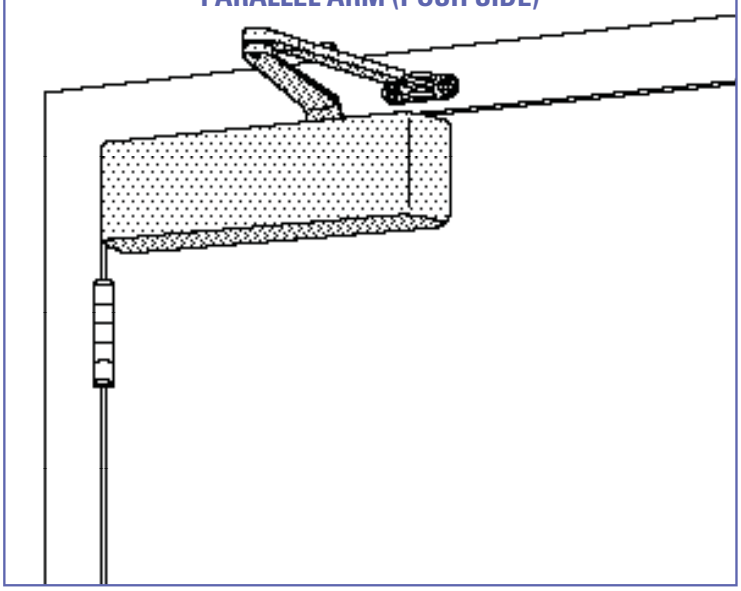
LCN 4040 SERIES

FEATURES

CLOSER MOUNTS
HINGE (PULL SIDE) (Shown)
TOP JAMB (PUSH SIDE)
PARALLEL ARM (PUSH SIDE)

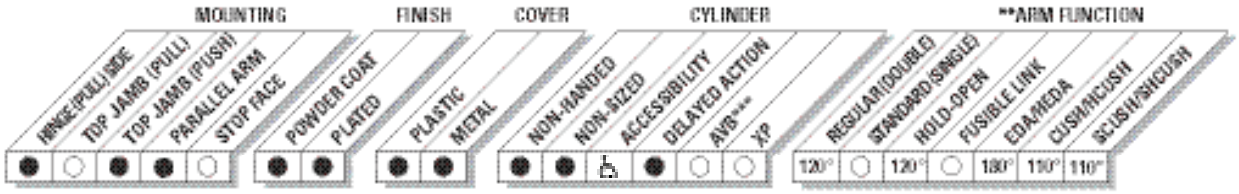


The 4040 SUPER SMOOTHEE® is LCN's most flexible heavy duty closer designed for institutional and other rugged high traffic applications.

- **Ten Million Cycles**
- **Cast Iron**
- **Forged Steel Arm**
- **Double Heat Treated Steel Pinion**
- **All Weather Fluid**
- **Non-Handed**
- **LCN® Fast™ Power Adjust**
- **Fast & Accurate Installation**
- **UL & cUL Listed**
- **For XP See Page 40**

- Standard 4040 series closer shipped with regular arm, standard plastic clip-on cover, and self reaming and tapping screws. See 4040 Series pages 45-47 for options.
- Non-sized cylinder is adjustable for interior doors to 5'0" and exterior doors to 4'0".
- Closer mounts hinge side, top jamb, and parallel arm w/PA Shoe on either right or left swinging doors.
- Closers to meet ADA requirements. See 4040 Series page 48.
- Standard or optional custom powder coat finish.
- Optional plated finish on cover, arm, and fasteners.
- Optional SRI primer for installations in corrosive conditions.
- UL and cUL listed for self-closing doors without hold-open.
- Tested and certified under ANSI Standard A156.4, grade one.

The 4040 Series includes the **LCN® FAST™ Power Adjust,** *a revolutionary visual indicator for Spring Power Adjustment.*



● *Available*
○ *Not available*

Closer available with less than 5.0 lbs. opening force on 36" door.
***Maximum opening/hold-open point with standard template.*
**** Advanced Variable Backcheck*

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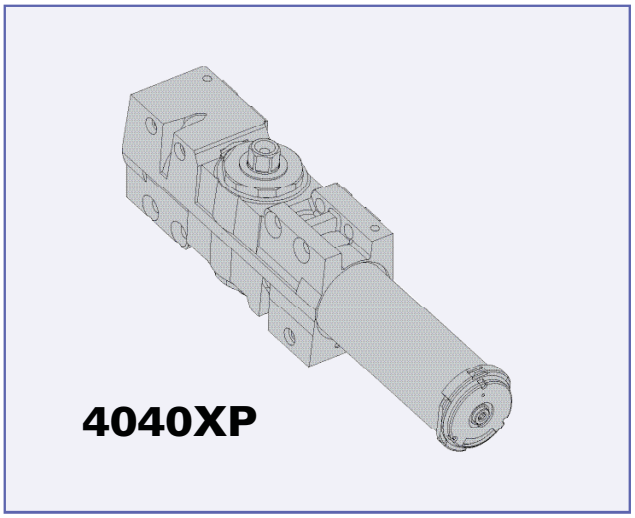
LCN 4040 SERIES

FEATURES



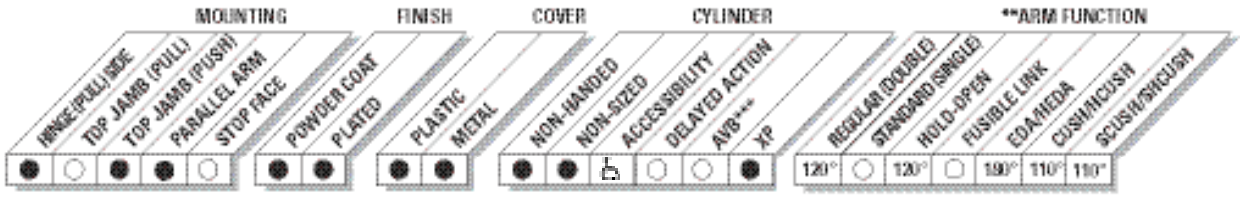
4040XP

The 4040XP is LCN's most durable heavy duty closer designed for the most demanding, high use and abuse applications.

- 44% increased bearing load capacity
- Strongest pinion ever- at 3/4" journal diameter
- Widest bearing ever- at 5/8"
- Stronger pinion teeth
- New V-shield™ seal with longer life
- XP = eXtra Protection in real world applications
- Cast Iron
- Forged Steel Arm
- Double Heat Treated Steel Pinion
- All Weather Fluid
- Non-Handed
- LCN® Fast™ Power Adjust
- Fast & Accurate Installation
- UL & cUL Listed
- Tested and certified under ANSI Standard A156.4, grade one

- Non-sized cylinder is adjustable for interior doors to 5'0" and exterior doors to 4'0".
- Closer mounts parallel arm (EDA arm) on either right or left swinging doors.
- Optional hinge side and top jamb mount with optional regular arm.
- Closers to meet ADA requirements. See 4040XP Series page 49.
- Standard or optional custom powder coat finish.
- Optional plated finish on metal cover, arm and fasteners.
- Optional SRI primer for installations in corrosive conditions is available with powder coat only.
- UL and cUL listed for self-closing doors without hold-open.
- 4040XP can be used with all 4041 accessories. See pages 45-47 for options.

The 4040 Series includes the **LCN® FAST™ Power Adjust,** *a revolutionary visual indicator for Spring Power Adjustment.*



● *Available*
○ *Not available*

Closer available with less than 5.0 lbs. opening force on 36" door.
***Maximum opening/hold-open point with standard template.*
**** Advanced Variable Backcheck*

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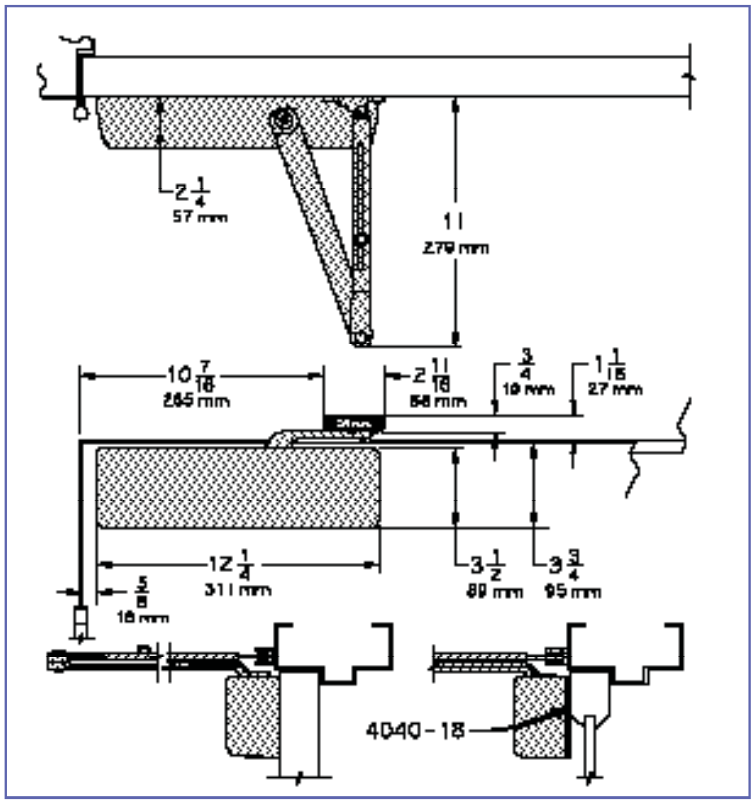
LCN 4040 SERIES

HINGE (PULL) SIDE MOUNTING

MAXIMUM OPENING

Templating allows up to 120°.

Hold-open points 90° up to 120° with hold-open arm.



- **Butt Hinges** should not exceed 5" (127 mm) in width.
- **Auxiliary Stop** is recommended at hold-open point or where a door cannot swing beyond 120°.
- **Reveal** should not exceed 3/4" (19 mm) for regular arm or hold-open arm.
- **Top Rail** less than 3 3/4" (95 mm) requires PLATE, 4040-18. Plate requires 2" (51 mm) minimum.
- **Clearance** of 2 3/8" (60 mm) behind door required for 90° installation.
- **Delayed Action** (not available on 4040XP) Add suffix "DEL" to selected cylinder (eg. 4041 DEL). Delays closing from 120° to 70°. Delay time adjustable up to approximately 1 minute.

Options

- 4040XP cylinder
- 4041 Delayed action cylinder.
- Hold-open arm.
- Metal cover.

Special Templates

Customized installation templates or products may be available to solve unusual applications. Contact LCN for assistance.

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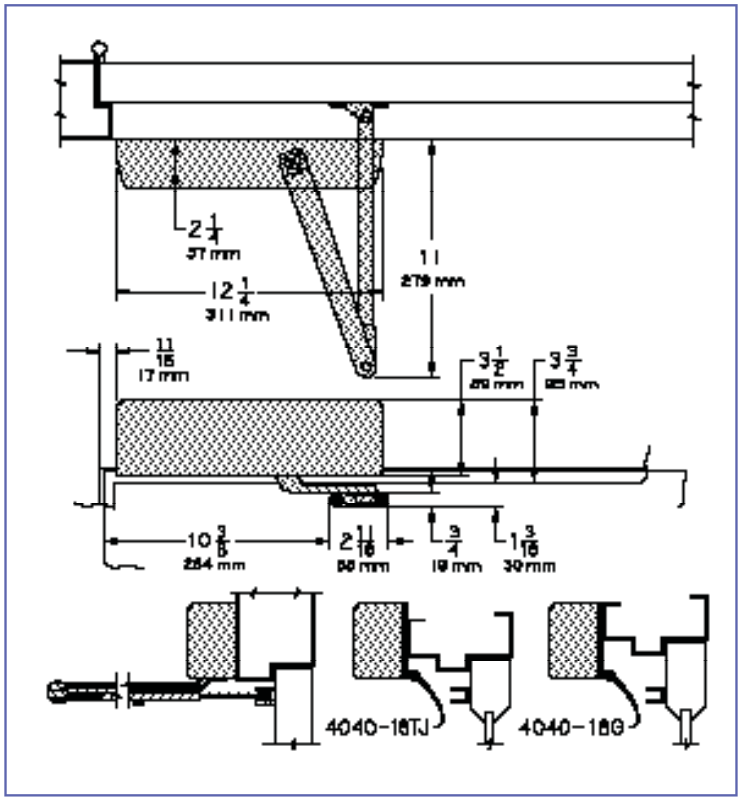
MOUNTING DETAILS



TOP JAMB (PUSH SIDE) MOUNTING

MAXIMUM OPENING

Templating allows up to 120°.

Hold-open points 85° up to 120° with hold-open arm.

- **Butt Hinges** should not exceed 5" (127 mm) in width.
- **Auxiliary Stop** is recommended at hold-open point or where the door cannot swing 120°.
- **Reveal** of 2 9/16" (65 mm) allows 120° opening for REGULAR ARM or standard HOLD-OPEN ARM. 4 13/16" (122 mm) allows up to 120° opening with LONG ARM where standard rod and shoe is replaced with optional LONG ROD AND SHOE 4040-79LR. Use H-LONG ARM with LONG HEAD AND TUBE, 4040-78HL for hold-open. 8" (203 mm) allows up to 120° opening with EXTRA LONG ARM where standard rod and shoe is replaced with optional EXTRA LONG ROD AND SHOE, 4040-79ELR.
- **Top Rail** requires 1 1/4" (32 mm) minimum.
  2 1/4" (57 mm) minimum with closer on PLATE, 4040-18TJ.
  3" (76 mm) minimum with closer on PLATE, 4040-18G.
- **Head Frame** less than 3 1/2" (89 mm) requires PLATE, 4040-18TJ.
  With flush ceiling, use PLATE, 4040-18G.
  Either plate requires 1 3/4" (44 mm) minimum.
- **Delayed Action** (not available on 4040XP) Add suffix "DEL" to selected cylinder (eg. 4041 DEL). Delays closing from 120° to 80°. Delay time adjustable up to approximately 1 minute.

Options

- 4040XP cylinder
- 4041Delayed action cylinder.
- Long arm, extra long arm, hold-open arm, long hold-open arm.
- Metal cover.

Special Templates

Customized installation templates or products may be available to solve unusual applications. Contact LCN for assistance.

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LCN 4040 SERIES

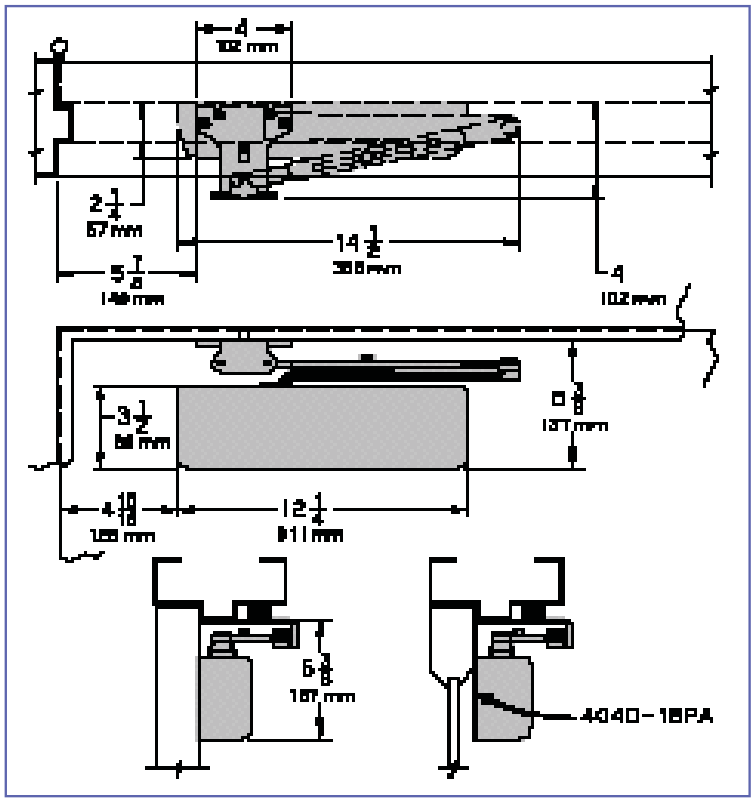
PARALLEL ARM (PUSH SIDE) MOUNTING

Optional mounting requires PA SHOE, 4040-62PA for REGULAR or HOLD-OPEN arms. Add prefix "P" to closer description (eg. P4041). P4041 closer includes 4040-201 FIFTH HOLE SPACER to support PA SHOE.

MAXIMUM OPENING

180° opening/hold-open points with all except CUSH arms.

110° opening/hold-open with CUSH arms.



- **Butt Hinges** should not exceed 5" (127 mm) in width.
- **Auxiliary Stop** is recommended at hold-open point, where the door cannot swing 180°, or where CUSH-N-STOP arm is not used.
- **Clearance** for 4040-62PA shoe is 4" (102 mm) from door face.
  EDA shoe projects 5 1/2" (140 mm) from door face.
  CUSH shoe projects 6" (152 mm) from door face.
- **Top Rail** less than 5 3/8" (137 mm) measured from the stop requires PLATE, 4040-18PA. Plate requires 2" (51 mm) minimum from the stop.
- **Head Frame** flush or rabetted requires PA SHOE ADAPTER, 4040-419.
- **Stop Width** minimum 1" (25 mm).
- **Blade Stop** clearance requires 1/2" (13mm) BLADE STOP SPACER, 4040-61.
- **Delayed Action** (not available on 4040XP) Add suffix "DEL" to selected cylinder (eg. P4041 DEL). Delays time adjustable up to approximately 1 minute.

Options

- 4040XP cylinder
- 4041Delayed action cylinder.
- Hold-open, EDA, HEDA, CUSH, HCUSH, SPRING CUSH, or SPRING HCUSH arm.
- Metal cover.

Special Templates

Customized installation templates or products may be available to solve unusual applications. Contact LCN for assistance.

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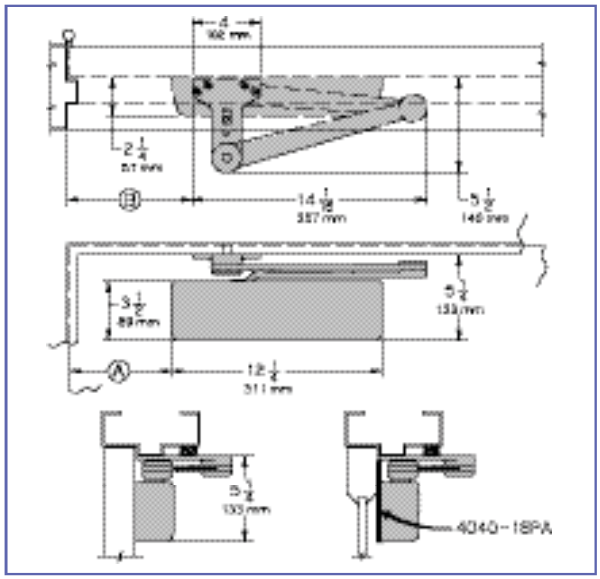
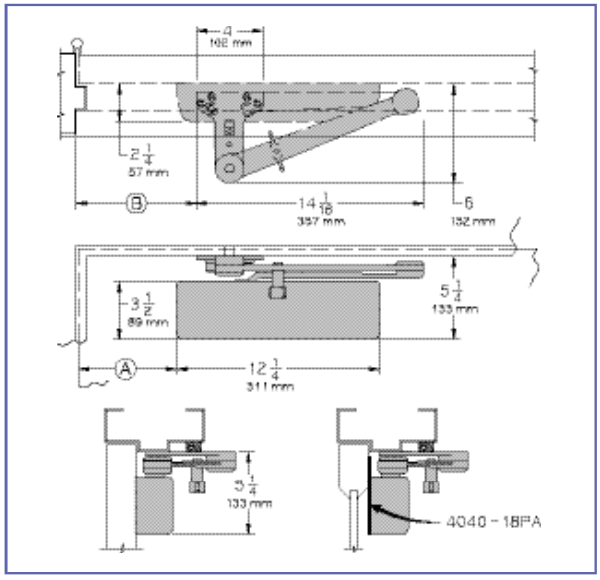
LCN 4040 SERIES

Mounting details are the same as 4040 Series REGULAR or HOLD-OPEN except as listed below. 4040 Series closers ordered with EDA or CUSH arms include 4040-201 FIFTH HOLE SPACER to support the shoe.

4040 SERIES EDA MOUNT



4040 SERIES CUSH MOUNT



- **Clearance** for 4040-62EDA is 5 1/2" (140 mm) from door face. 6" (152 mm) for CUSH.
- **Head Frame** flush or rabetted requires CUSH FLUSH PANEL ADAPTER, 4040-419.
- **CUSH ARM** requires SHOE SUPPORT, 4040-30 for fifth screw anchorage for narrow frames.
- **Delayed Action** (not available on 4040XP) Add suffix "DEL" to selected cylinder (eg. 4041 DEL). Delays closing from maximum opening to; 115˚ with 180˚ template. 95˚ with 110˚ template. 85˚ with 100˚ template. 75˚ with 90˚ template. Delay time adjustable up to approximately 1 minute.

MAXIMUM OPENING

EDA arm can be templated for points at: 110°,
Ⓐ = 6 3/8" (162 mm)
Ⓑ = 7 3/4" (197 mm)
or 180°.
Ⓐ = 2 7/8" (73 mm)
Ⓑ = 4 1/4" (108 mm)
Hold-open points up to maximum opening with HEDA arm.

CUSH arms can be templated for opening/hold-open point at:
85°,
Ⓐ = 7 15/16" (202 mm)
Ⓑ = 9 1/8" (232 mm)
90°,
Ⓐ = 7 3/16" (183 mm)
Ⓑ = 8 1/2" (216 mm)
100°,
Ⓐ = 6 1/16" (154 mm)
Ⓑ = 7 1/4" (184 mm)
or 110°.
Ⓐ = 5 1/16" (129 mm)
Ⓑ = 6 3/8" (162 mm)

Spring Cush dead stop points are approximately 5˚ more than templated stop point. Hold open at templated stop points.

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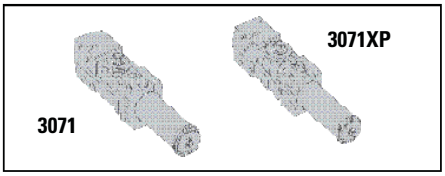
LCN 4040 SERIES

CYLINDERS

CYLINDER, 4041-3071
Standard, non-handed cast iron cylinder assembly.

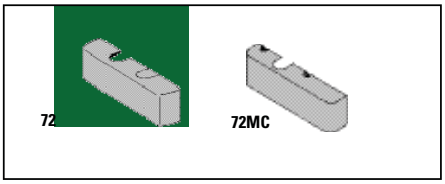
CYLINDER, 4040XP-3071
Heavy duty, non-handed cast iron cylinder assembly.



COVERS

COVER, 4040-72
Standard, non-handed plastic clip-on cover.

METAL COVER, 4040-72MC
Optional, handed cover. Required for plated finishes and custom powder coat finishes.



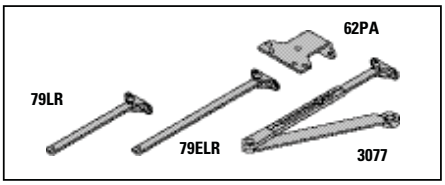
ARMS

REGULAR ARM, 4040-3077
Non-handed arm mounts pull side or top jamb with shallow reveal. P4041 closer includes PA SHOE, 4040-62PA required for parallel arm mounting.

PA SHOE, 4040-62PA
Required for parallel arm mounting.

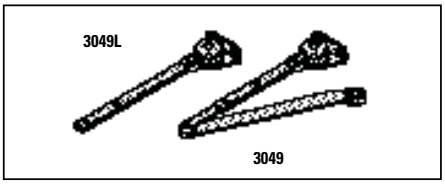
LONG ARM, 4040-3077L
Optional non-handed arm includes LONG ROD AND SHOE, 4040-79LR for top jamb mount.

EXTRA LONG ARM, 4040-3077ELR
Optional non-handed arm includes EXTRA LONG ROD AND SHOE, 4040-79ELR for top jamb mount with deep reveal.



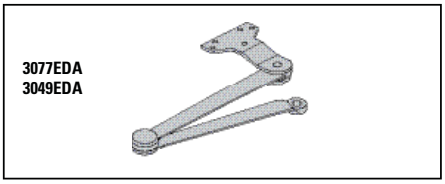
HOLD-OPEN ARM, 4040-3049
Optional, non-handed arm mounts pull side or top jamb with shallow reveal, hold-open adjustable shoe. P4041 closer includes 4040-62PA shoe required for parallel arm mounting.

LONG HOLD-OPEN ARM, 4040-3049L
Optional non-handed arm includes LONG HEAD AND TUBE, 4040-3048L for top jamb mount.



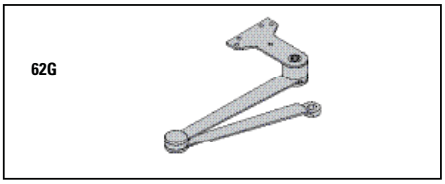
EXTRA DUTY ARM, 4040-3077EDA
Non-handed parallel arm features forged, solid steel main and forearm for potentially abusive installations.

HOLD-OPEN EXTRA DUTY ARM, 4040-3049EDA
Optional handed arm provides hold-open function, adjustable at the shoe.



EDA ARM w/THICK HUB SHOE, 4040-3077EDAG
Optional for blade stop clearance, requires special templating.

HEDA ARM w/THICK HUB SHOE, 4040-3049EDAG
Optional for blade stop clearance, requires special templating.



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ARMS cont.

CUSH-N-STOP® ARM, 4040-3077CNS
Optional, non-handed parallel arm features solid forged steel main arm and forearm with stop in soffit shoe.

HCUSH ARM, 4040-3049CNS
Provides hold-open function with templated stop/hold-open points. Handle controls hold-open function.

SPRING CUSH ARM, 4040-3077SCNS
Optional, non-handed parallel arm for abusive applications features solid forged steel main arm and forearm with spring loaded stop in the soffit shoe.

SPRING HCUSH ARM, 4040-3049SCNS
Optional, non-handed parallel arm for abusive applications features solid forged steel main arm and forearm with spring loaded stop in the soffit shoe. Handle controls hold-open function.

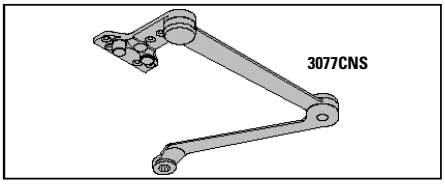
INSTALLATION ACCESSORIES

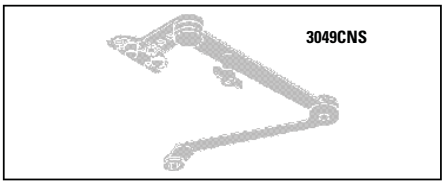
PLATE, 4040-18
Required for hinge side mount where top rail is less than 3 3/4" (95 mm). Plate requires minimum 2" (51 mm) minimum top rail.

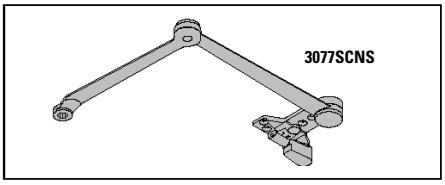
PLATE, 4040-18G
Locates top jamb mounted closer flush with top of head frame face in flush ceiling condition. Plate requires 1 3/4" (44 mm) minimum head frame.

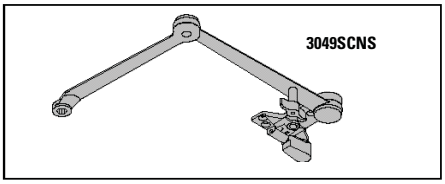
PLATE, 4040-18TJ
Centers top jamb mounted closer vertically on head frame where face is less than 3 1/2" (89 mm). Plate requires 1 3/4" (44 mm) minimum head frame.

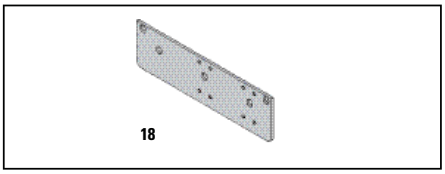
PLATE, 4040-18PA
Required for parallel arm mounting where top rail is less than 5 1/2" (140 mm), measured from the stop. Plate requires 2" (51 mm) minimum top rail.

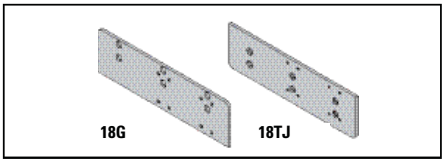


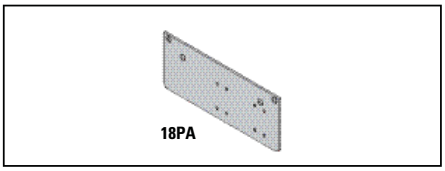












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LCN 4040 SERIES

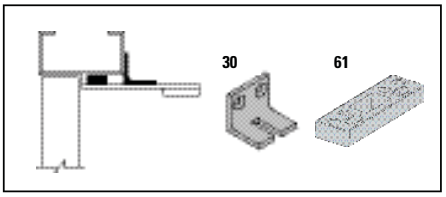
INSTALLATION ACCESSORIES cont.

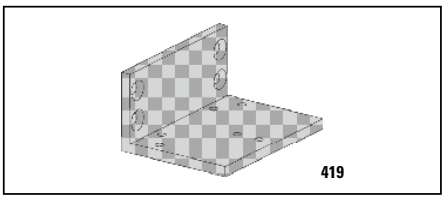
CUSH SHOE SUPPORT, 4040-30 provides anchorage for fifth screw used with CUSH arms, where reveal is less than 3 1/16" (78 mm).

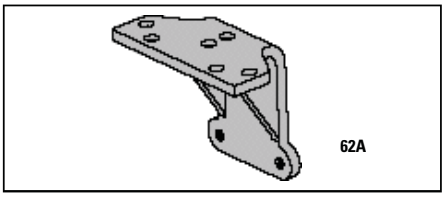
BLADE STOP SPACER, 4040-61 required to lower parallel arm shoe to clear 1/2" (13 mm) blade stop.

PA FLUSH PANEL ADAPTER, 4040-419 provides horizontal mounting surface for PA or CUSH shoe on single rabetted or flush frame.

AUXILIARY SHOE, 4040-62A requires a top rail of 7" (178 mm). Optional shoe replaces -62PA for parallel arm mounting of regular arm with overhead holder/stop.







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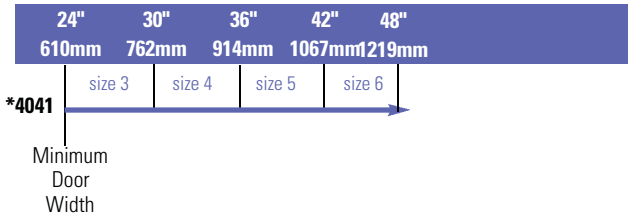
LCN 4040 SERIES

TABLE OF SIZES

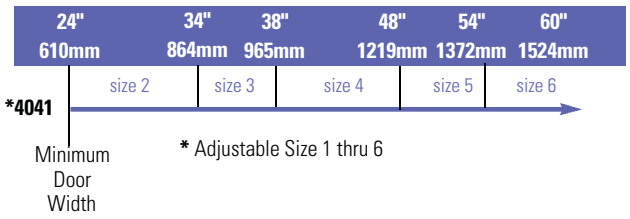
4041 cylinders are adjustable from size 1 through size 6 and is shipped set to size 3.
Closing power of 4040 series closers may be adjusted 50%.

→ Indicates recommended range of door width for closer size.

EXTERIOR (and VESTIBULE) DOOR WIDTH



INTERIOR DOOR WIDTH



* Adjustable Size 1 thru 6

REDUCED OPENING FORCE 4040 SERIES CLOSERS

CAUTION ! Any manual door closer, including those certified by BHMA to conform to ANSI Standard A156.4, that is selected, installed and adjusted based on ADA or other reduced opening force requirements may not provide sufficient power to reliably close and latch a door.

Refer to POWER OPERATORS section for information on systems that meet reduced opening force requirements without effecting closing power.

	DOOR WIDTH	36"	42"	48"
♿	8.5* lbs.	4041	4041	4041
	5.0* lbs.	4041	4041	4041

** Maximum opening force*

HOW-TO-ORDER 4041 SERIES CLOSERS

1. SELECT FINISH.
☐ Standard Powder Coat _____
Aluminum, Dark Bronze , Statuary, Light Bronze, Black, Brass.

Closer will be shipped with:
- STANDARD CLIP-ON COVER,
- REGULAR ARM,
- SELF-REAMING and TAPPING SCREWS, unless options listed below are selected.

CLOSER OPTIONS

CYLINDER
☐ Delayed Action (DEL)
COVER
☐ Metal (specify right or left hand) (MC)
FINISH
☐ Custom Powder Coat (RAL) _____
(handed metal cover required)
☐ Plated Finish, US _____
(handed metal cover required)
☐ SRI primer
ARM
☐ Regular w/62PA (Rw/PA)
☐ Regular w/62A (R/62A)
☐ Long (LONG)
☐ Extra Long (XLONG)
☐ Hold-Open (H)
☐ Hold-Open w/62PA (Hw/PA)
☐ Long Hold-Open (HLONG)
☐ EDA (optional -62G)
☐ HEDA (specify right or left hand, optional-62G)
☐ Cush-N-Stop (CUSH)
☐ HCush-N-Stop (HCUSH)
☐ Spring Cush (SCUSH)
☐ Spring HCush (SHCUSH)
OPTIONAL SCREW PACKS
☐ TB* w/Self-Reaming and Tapping (TBSRT)
☐ Wood & Machine Screw (WMS)
☐ TB*, Wood & Machine Screw (TBWMS)
☐ TORX Machine Screw (TORX)
☐ TB* & TORX Machine Screw (TBTRX)
* Specify door thickness if other than 1 3/4".
INSTALLATION ACCESSORIES
☐ Plate, 4040-18
☐ Plate, 4040-18TJ
☐ Plate, 4040-18G
☐ Plate, 4040-18PA
☐ CUSH Shoe Support, 4040-30
☐ Blade Stop Spacer, 4040-61
☐ Auxiliary Shoe, 4040-62A
☐ PA Flush Panel Adapter, 4040-419
SPECIAL TEMPLATE
☐ ST- _____

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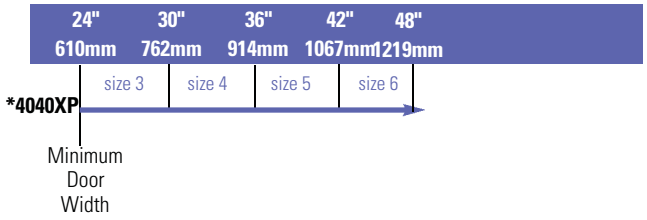
TABLE OF SIZES

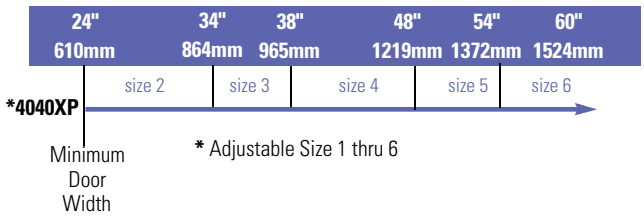
4040XP cylinders are adjustable from size 1 through size 6 and is shipped set to size 3.
Closing power of 4040 series closers may be adjusted 50%.

→ Indicates recommended range of door width for closer size.

EXTERIOR (and VESTIBULE) DOOR WIDTH



INTERIOR DOOR WIDTH



***** Adjustable Size 1 thru 6

REDUCED OPENING FORCE 4040 SERIES CLOSERS

CAUTION ! Any manual door closer, including those certified by BHMA to conform to ANSI Standard A156.4, that is selected, installed and adjusted based on ADA or other reduced opening force requirements may not provide sufficient power to reliably close and latch a door.

Refer to POWER OPERATORS section for information on systems that meet reduced opening force requirements without effecting closing power.

	DOOR WIDTH	36"	42"	48"
	8.5* lbs.	4041	4041	4041
	5.0* lbs.	4041	4041	4041

** Maximum opening force*

HOW-TO-ORDER 4040XP SERIES CLOSERS

1. SELECT FINISH.
☐ Standard Powder Coat _____
Aluminum, Dark Bronze , Statuary, Light Bronze, Black, Brass.

Closer will be shipped with:
- STANDARD CLIP-ON COVER,
- SPECIFY ARM WHEN ORDERING,
- SELF-REAMING and TAPPING SCREWS, unless options listed below are selected.

CLOSER OPTIONS

COVER
☐ Metal (specify right or left hand) (MC)
FINISH
☐ Custom Powder Coat (RAL) _____
(handed metal cover required)
☐ Plated Finish, US _____
(handed metal cover required)
☐ SRI primer
ARM
☐ Regular (Rw)
☐ Regular w/62PA (Rw/PA)
☐ Regular w/62A (R/62A)
☐ Long (LONG)
☐ Extra Long (XLONG)
☐ Hold-Open (H)
☐ Hold-Open w/62PA (Hw/PA)
☐ Long Hold-Open (HLONG)
☐ EDA (-62G)
☐ HEDA (specify right or left hand, optional-62G)
☐ Cush-N-Stop (CUSH)
☐ HCush-N-Stop (HCUSH)
☐ Spring Cush (SCUSH)
☐ Spring HCush (SHCUSH)
OPTIONAL SCREW PACKS
☐ TB* w/Self-Reaming and Tapping (TBSRT)
☐ Wood & Machine Screw (WMS)
☐ TB*, Wood & Machine Screw (TBWMS)
☐ TORX Machine Screw (TORX)
☐ TB* & TORX Machine Screw (TBTRX)
* Specify door thickness if other than 1 3/4".
INSTALLATION ACCESSORIES
☐ Plate, 4040-18
☐ Plate, 4040-18TJ
☐ Plate, 4040-18G
☐ Plate, 4040-18PA
☐ CUSH Shoe Support, 4040-30
☐ Blade Stop Spacer, 4040-61
☐ Auxiliary Shoe, 4040-62A
☐ PA Flush Panel Adapter, 4040-419
SPECIAL TEMPLATE
☐ ST- _____

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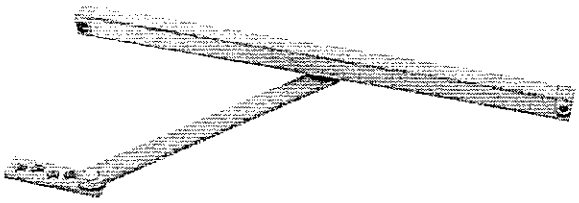
450 Series Surface Overhead Door Holders/Stops



450 Series Medium-Duty

Glynn-Johnson provides the most complete line of overhead holders and stops, offering solutions for the most demanding door control problems. These surface-mounted holders and stops offer the widest variety of functions, materials and finishes to fit all medium- to light-duty applications.

Glynn-Johnson 450 series holders and stops provide reliable and versatile surface-mounted overhead door control for all medium to light-duty applications. The visible components are available in a wide variety of architectural finishes to complement any design. The 450 series holders and stops are designed for installation in virtually all types of doors and frames including doors with conventional butt hinges, offset pivots, continuous hinges, swing clear hinges and many other specialty hinges. The templates provided allow for variable mounting positions, ranging from 85° - 110° of opening.

Four Models:
- 450H Series Hold-Open Model
- 450S Series Stop-Only Model
- 450F Series Friction Hold-Open Model
- 450SE Series Special Stop-Only Model

Five Sizes:
- Simple
- Standardized
- Each model is available in five sizes

Three Options:
- J—Angle Jamb Bracket
- SHIM—Blade Stop Shim Kit
- SOC—Pin-in-Socket Security Screw Package

Unmatched Convenience:
- Non-Handed
- Improved Compatibility with Door Closers
- Improved Jamb Bracket Design
- Single Acting Doors
- Interior Applications
- Durable
- Easy to Install
- Improved Corrosion Resistance

Materials and Finishes:
In Brass, 300 series stainless steel or steel, these models offer the broadest range of finishes in the industry to complement any design. Brass and Stainless Steel offer the highest resistance to corrosion, while all these base materials are suitable for normal interior use.

Finish	Description
US3	Polished Brass
US4	Satin Brass
US10	Satin Bronze
US10B	Oil Rubbed Bronze
US32	Polished Stainless Steel
US32D	Satin Stainless Steel
SP4	Powder Coast Brass
SP10	Powder Coat Bronze
SP28	Powder Coat Aluminum
SP313	Powder Coat Dark Bronze
SPBLK	Powder Coat Black
652	Chrome-like Coating

Models

Glynn-Johnson 450 series holders and stops are designed for medium to light-duty applications. They're ideal for openings that are subject to normal activity, providing protection for the door, frame, hinges and surrounding walls or obstructions.

Designed for improved compatibility with most door closers, all models incorporate popular channel/slide arm design and offset jamb brackets. The improved design makes it easier to change functions in the field, should user requirements change.

450H Series Hold-Open

(Suffix H) These models conveniently hold doors open at a predetermined position, permitting unobstructed traffic flow.

These models feature an adjustable automatic Hold-Open that is activated when the door is opened to a preset angle. The Hold-Open tension can be adjusted using an allen wrench through the end of the slider located in the channel at the top of the door. Each meets the 250,000 test cycles required for Grade 1 classification.

450S Series Stop-Only

(Suffix S) When the Hold-Open function is not required, the Stop-Only function provides the same effective door control without keeping the door held open. The Stop-Only model may be used on fire doors.

450F Series Friction Hold-Open

(Suffix F) Friction Hold-Open models provide an alternative holding method ideal for patient room doors, wardrobe or closet doors, or similar applications where multiple Hold-Open positions are desired. The friction tension can be adjusted using an allen wrench on the slider located in the channel at the top of the door.

450SE Series Special Stop-Only

(Suffix SE) When Stop-Only models are used in conjunction with single point Hold-Open electronic door closers, the function may be ordered without the shock absorbing mechanism. Used as an auxiliary stop with these closers, they will prolong the life of the closer. The stop location is adjusted using an allen wrench on the stop block located in the channel.

Note: Caution should be taken when using this option in other applications, as the elimination of the shock-absorbing spring can put added stress on the door and frame.

Application Information

Closer Applications

Glynn-Johnson 450 series models require minimal door and frame preparation. They may be used in conjunction with most surface-applied door closers. In some cases, optional drop brackets may need to be mounted on the closers. These brackets are available from the closer manufacturer.

UL Classification

The 450 series Stop-Only models are classified by Underwriters Laboratories (UL) as Miscellaneous Fire Door Accessories. This classification applies to use on either Hollow Metal Fire Doors or Wood Fire Doors. These units may be used on doors of any rating. As a reminder, the Miscellaneous Fire Door Accessories (GVUX) section is defined by UL as: "Miscellaneous fire door accessories are intended in the individual Listings. The accessories have been investigated to determine that when installed in accordance with the manufacturer's instructions, the accessories do not adversely affect the fire rating of the fire door and/or fire door frames."

Dead-Stop Templating:

For situations where a wall or similar obstruction is in place at an opening angle of 110° or less (e.g. doors that open back-to-back), dead stop templating should be used. This includes all Hold-Open, Friction and Stop-Only models, except when the "SE" option is used. The Dead Stop position is reached when the shock-absorbing spring is fully compressed, allowing an initial degree of opening of 5° to 7° less than the Dead Stop opening.

Example: If the holder is templated for 100° Dead Stop, the door will hold open somewhere between 93° to 95°, and no further than 100°.

Note: Do not use dead-stop templating on the 450SE Series since there is no shock-absorbing spring.

Environmental Conditions:

To assure a long operating life for holders and stops, consider the environment where they will be used. Doors that open to the exterior of a building or are subject to corrosive conditions should have a holder constructed primarily of stainless steel, brass or bronze materials. For interior doors, steel material may be acceptable, although brass and bronze substrates will provide a more attractive architectural grade finish.

Heavy-Use Applications:

Where doors and frames are subject to heavy use and abuse, a heavy-duty holder or stop should be considered. Also heavy-duty units should be considered on exterior doors subject to wind.

Options

Suffix J (Angle Jamb Bracket):

An additional option on the 450 Series is the Angle Jamb Bracket for hinge-side or flush transom mounting. The angle jamb bracket affixes to the standard jamb bracket. If ordered with the overhead add suffix J. If needed separately order 450J-Finish.

Suffix SHIM (Blade Stop Shims):

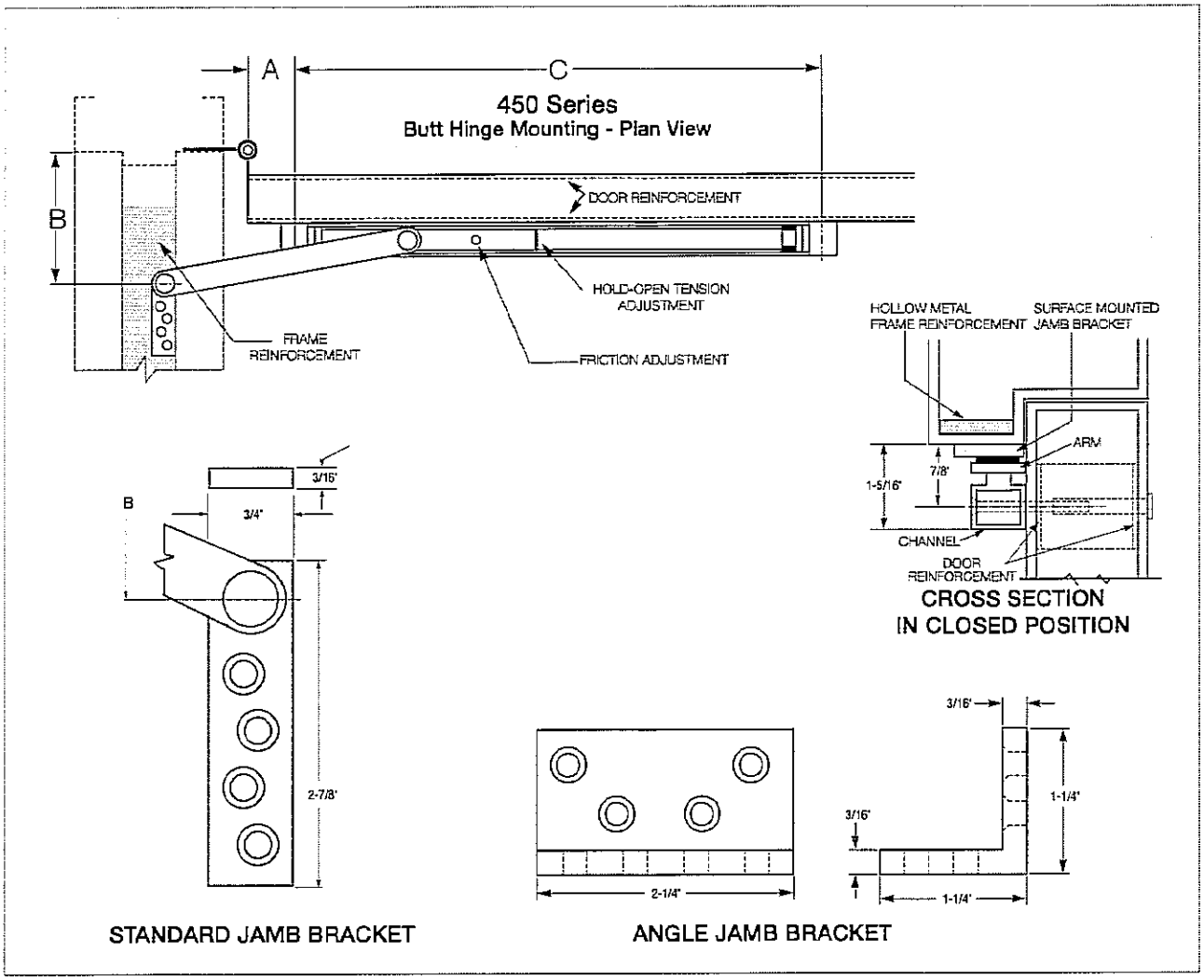
Shim kits are available in 3 sizes:
450 SHIM1 is a 3/16" Shim Kit
450 SHIM2 is a 3/8" Shim Kit
450 SHIM3 is a 9/16" Shim Kit

If ordered with overhead, add suffix SHIM (1, 2 or 3). If needed separately order 450SHIM (1, 2 or 3)–Finish.

Suffix SOC (Pin-in-Socket Security Screw Package):

A screw package with pin-in-socket screws for mounting the channel to the door and the jamb bracket to the frame is provided instead of the standard screw package.

450 Series Surface Overhead Door Holders/Stops



450 Series Sizing Chart								
BUTTS/OFFSET PIVOTS					CENTER HUNG			
SIZE	DOOR OPENING	STOP ONLY	HOLD OPEN	FRICTION	DOOR OPENING	STOP ONLY	HOLD OPEN	FRICTION
1	18°–23°	451S	451H	451F	23-1/16°–27°	451S	451H	451F
2	23-1/16°–27°	452S	452H	452F	27-1/16°–33°	452S	452H	452F
3	27-1/16°–33°	453S	453H	453F	33-1/16°–39°	453S	453H	453F
4	33-1/16°–39°	454S	454H	454F	39-1/16°–45°	454S	454H	454F
5	39-1/16°–45°	455S	455H	455F	45-1/16°–51°	455S	455H	455F

Note: This chart illustrates the most common types of hinging and door opening sizes. For unusual door details, contact Glynn-Johnson for availability.

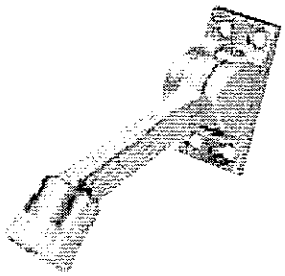
BHMA/ANSI, A156.8 & FED. Spec. Cross Reference		
G-J Model	BHMA*	FED. Spec.
451-455 H	C05511	1166
451-455 S	C05541	1166A
451-455 F	C05531	1164

** First numeral (0) designates optional material.*

To specify:
Brass/bronze material, change 0 to 1 (e.e. C15511)
Stainless Steel Material, change 0 to 5 (i.e. C55511)
Steel material, change 0 to 8 (i.e. C85511)

The template information on this page is for reference only and is not intended to serve as an installation template. For complete dimensional information, refer to Glynn-Johnson template book.

Kick Down Door Stop
No. 461



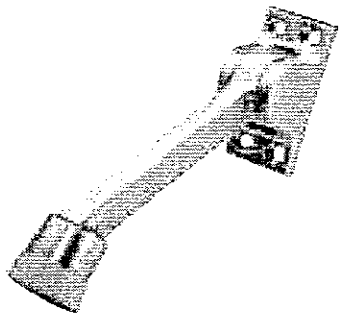
Material: Solid Cast Brass with DuraFlex Bumper

Finishes: Available in standard architectural finishes (see page 7). DuraFlex Bumper available in grey or black.

Features:
- Uses replacement bumper 461B.
- DuraFlex bumper provides reliable grip on floor.
- A unique patent assembly (#383989) that conceals the axle pin in the base.

No.	Fastener	Base	Projection	Weight	ANSI A156.16
461	4 ea. #8 x ¾ OH SMS	2¼" x 1½"	3⅝"	6.1 lbs./10	L01382

Kick Down Door Stop
No. 461L



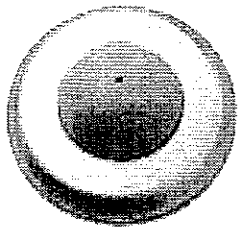
Material: Solid Cast Brass with DuraFlex Bumper

Finishes: Available in standard architectural finishes (see page 7). DuraFlex Bumper available in grey or black.

Features:
- Uses replacement bumper 461B.
- DuraFlex bumper provides reliable grip on floor.
- A unique patent assembly (#383989) that conceals the axle pin in the base.
- For use with doors up to 3" door-to-floor clearance.

No.	Fastener	Base	Projection	Weight	ANSI A156.16
461L	4 ea. #8 x ¾ OH SMS	2¼" x 1¼"	4⅝"	7.1 lbs./10	L01382

Wrought Wall Stops
No. 406, 407, 408



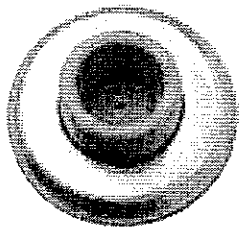
Material: Wrought Brass, Bronze, and Stainless Steel with DuraFlex Bumper

Finishes: Available in standard architectural finishes (see page 7).

Features: Concealed mounting, convex bumper. Back plate prevents damage to wall.

No.	Bumper	Fastener	Size	Weight	ANSI A156.16
406	Convex	#8 x 1¼ TH SMS, plastic toggle	2½" dia., ¾" projection	1.8 lbs./10	L02101
407	Convex	#8 x 1 RH WS, plastic anchor	2½" dia., ¾" projection	1.8 lbs./10	L02101
408	Convex	8-32 x 1 TH MS, lead anchor	2½" dia., ¾" projection	1.8 lbs./10	L02101

Wrought Wall Stops
No. 409, 410, 411



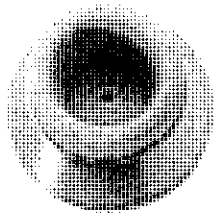
Material: Wrought Brass, Bronze, and Stainless Steel with DuraFlex Bumper

Finishes: Available in standard architectural finishes (see page 7).

Features: Concealed mounting, concave bumper. Back plate prevents damage to wall.

No.	Bumper	Fastener	Size	Weight	ANSI A156.16
409	Concave	#8 x 1¼ TH SMS, plastic toggle	2½" dia., ¾" projection	1.8 lbs./10	L02251
410	Concave	#8 x 1 RH WS, plastic anchor	2½" dia., ¾" projection	1.8 lbs./10	L02251
411	Concave	8-32 x 1 TH MS, lead anchor	2½" dia., ¾" projection	1.8 lbs./10	L02251

Wrought Wall Stop
No. 426

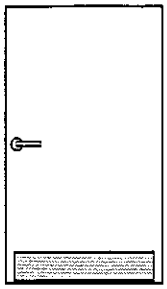


Material: Wrought Brass and Stainless Steel with DuraFlex Bumper

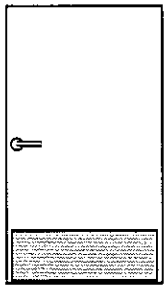
Finishes: US3, US32D

Other: Concealed mounting.

No.	Bumper	Fastener	Size	Weight	ANSI A156.16
426	Concave	#8 x 1¼ TH SMS, plastic toggle and plastic anchor	1⅞" dia., 1" projection	2.3 lbs./10	L02251



Mop Plate
Up to 8"h x 48"w



Kick Plate
6" to 12"h x 48"w

Stretcher Plate
6" to 12"h and up to 48"w

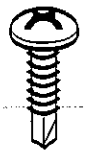
Armor Plate
Up to 48"h x 48"w and available in most finishes

Width of Plates:
Push Side: 2" less than door width. Pull Side: 1½" less than door width.

NFPA 80 STANDARDS — 2-4.5 Protection Plates: Factory-installed protection plates shall be installed in accordance with the listing of the door. Field-installed protection plates shall be labeled and installed in accordance with their listing.

Exception: *Labeling is not required where the top of the protection plate is not more than 16 in. (406 mm) above the bottom of the door.*

Self-Drilling TEK Screws
Cuts Door Plate Installation Time in Half



Metal Door Plate - Economy Duty
No. K1038

Material: .038" Thick Aluminum, Stainless Steel

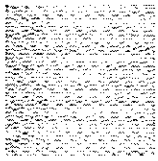
Finishes: Brass Look Aluminum (BRS LK), US32D, US32DPAT, and US3LIFETIME

Fastener: #6 x ⅝ TH SMS

Ordering: Specify height x width x finish code. Add any options.

Weight: 8" x 34" = 3.2 lbs.

Options:
- SA - self-adhesive mounting.
- TEK - self-drilling screws.
- Cutouts for locks, louvers, or windows.
- TORX - security torx screws.



US32DPAT
Patterned Stainless Steel

Metal Door Plate - Standard Duty
No. K1050, K1050F

Material: .050" Thick Aluminum, Brass, Bronze, Stainless Steel

Finishes: Available in standard architectural finishes, US32DBIO, US32D316, and US32316 (see page 7).

Fastener: #6 x ⅝ TH SMS

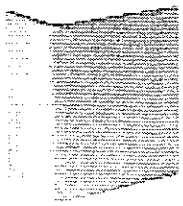
Ordering: Specify height x width x finish code. Add any options.

Weight: 8" x 34" = 4.0 lbs.

ANSI: J101 - metal armor plate, J102 - metal kick plate, J103 - metal stretcher & mop plate.

Options:
- SA - self-adhesive mounting.
- TEK - self-drilling screws.
- Beveled 3 or 4 edges, specify B3E or B4E.
- CSK - countersunk holes.
- Cutouts for locks, louvers, or windows.
- TORX - security torx screws.
- Screw mounting (K1050F) and UL listed for use on 90-minute label wood doors and 3-hour label metal doors.

Door Guard Protection Plates
No. 605, 605SMS



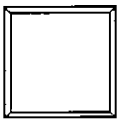
Material: Brass

Finishes: US3, US4, US5, US10, US10B, US26, US26D

Features: Protects corner of door from damage by door guard arm.

No.	Fastener	Size	Weight
605	self-adhesive tape	1⅛" x 1" x ½" return	0.3 lbs./10
605SMS	#6 x ⅝ FHSMS	1⅛" x 1" x ½" return	0.3 lbs./10

Wall Guard
No. 606



Material: Clear Rubber

Other: Sold in sheets of 55.

Features: Self-adhesive mounting.

No.	Fastener	Size	Weight
606	self-adhesive back	1" x 1"	0.4 lbs./55

Door Silencer
No. 608CA

Material: Clear Rubber

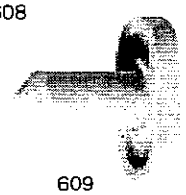
Other: Sold in packages of 300.

Features: Self-adhesive mounting.

No.	Fastener	Size	Weight
608CA	⅜" dia. x ⅛"	metal or wood	0.2 lbs./300

Door Silencers
No. 608, 609

608



609

Material: DuraFlex Gray Rubber

Other: Sold in packages of 100.

No.	Size	Frame Type	Weight	ANSI A156.16
608	½" dia. x ⅝"	metal	1.3 lbs./500	L03011
609	⅜" x ¾"	wood	1.3 lbs./500	L03021

©10/08

Architectural Hinges > Full Mortise Hinges > Five Knuckle

Ball Bearing - Standard Weight

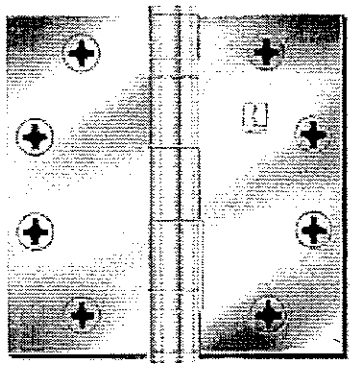
BB1279BB

For Hospital type prefix "HT" to catalog number

Application:
For use on medium weight doors or doors requiring medium frequency service.

Description:
- ANSI A8112
- Two ball bearings
- Non-rising removable pin with button tip and plug

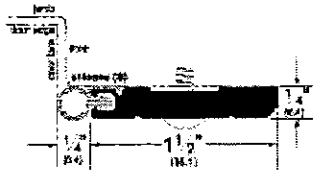
Material:
- Steel with Steel pin



Hinge Size (inches)	Hinge Size (mm)	Gauge of Metal	Hole Count	Screw Size (Machine)	Screw Size (Wood)
3 1/2 x 3 1/2	89 x 89	0.119	6	1/2 x 10-24	1 x 9
4 x 4	102 x 102	0.129	8	1/2 x 12-24	1 1/4 x 12
4 1/2 x 4	114 x 102	0.134	8	1/2 x 12-24	1 1/4 x 12
4 1/2 x 4 1/2	114 x 114	0.134	8	1/2 x 12-24	1 1/4 x 12
5 x 4	127 x 102	0.145	8	1/2 x 12-24	1 1/4 x 12
5 x 4 1/2	127 x 114	0.145	8	1/2 x 12-24	1 1/4 x 12
5 x 5	127 x 127	0.145	8	1/2 x 12-24	1 1/4 x 12
6 x 4 1/2	152 x 114	0.160	10	1/2 x 1/4-20	1 1/2 x 14
6 x 5	152 x 127	0.160	10	1/2 x 1/4-20	1 1/2 x 14
6 x 6	152 x 152	0.160	10	1/2 x 1/4-20	1 1/2 x 14

PEMKO
ASSA ABLOY

Title:	
Prepared for:	
Prepared by:	Steve Joyce
Date:	January 03, 2009
Comments:	

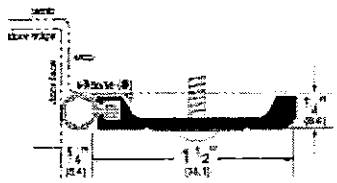


2891_S

Pemko Heavy-Duty Perimeter Gasketing

- Applied to header.
- This perimeter gasketing is supplied with a Silicone ("S") insert - item number S3BL.

2891AS A - Mill Finish Aluminum with Black Silicone insert

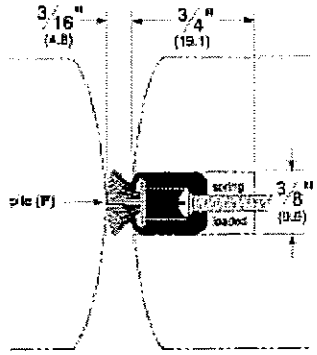


290_S

Pemko Heavy-Duty Perimeter Gasketing

- Applied to jamb.
- This perimeter gasketing is supplied with a Silicone ("S") insert - item number S3BL.
- Drawings are shown in the standard mounting application for the side section of the jamb.

290AS A - Mill Finish Aluminum with Black Silicone insert



300_P

Meeting Stile Gasketing

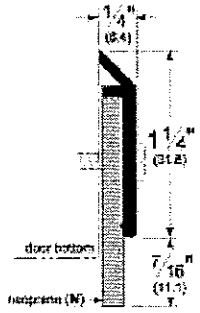
- This product does not work well on beveled edge pairs of doors.
- Spring-loaded from back side.
- For a 3/8" gap (or smaller) between doors.

300CP C - Clear Anodized Aluminum with Gray Pile insert

305_N

- When installing pairs of fire doors care must be taken to maintain the requirements of NFPA 80.
- Category J gaskets for use with listed steel frames and/or classified steel covered composite, hollow metal doors rated up to and including 3 hours; wood and plastic covered composite doors rated up to and including 1-1/2 hours; and wood core doors rated for 20 minutes.

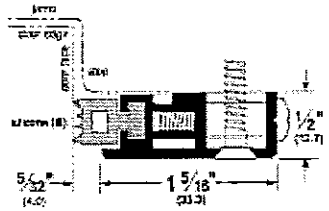
305CN C - Clear Anodized Aluminum with Gray Neoprene insert



315_N

315CN C - Clear Anodized Aluminum with Black Neoprene insert

379_S



Pemko Adjustable Jamb Weatherstrip

- Adjustable jamb weatherstrip is shown mounted on openings with 1/16" gaps; however, each weatherstrip can seal gaps up to 1/4". Adjustable jamb weatherstrip can adjust 3/16" out from the position illustrated.
- This adjustable jamb weatherstrip is furnished with Silicon ("S") - item number SRBL.

379CS C - Clear Anodized Aluminum with Black Sponge Silicone insert

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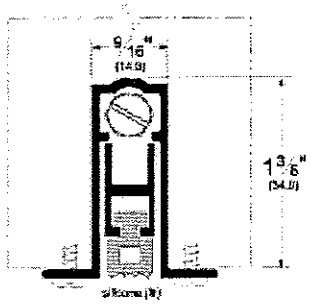
411_SL



Non-handed, full mortise.

- Smoother action positive seal mechanism. All Pemko automatic door bottoms consist of an aluminum case which surrounds a movable drop-bar seal. The drop-bar seal is actuated by a plunger which contacts the jamb as the door is closing, forcing the drop-bar seal down against the floor / threshold.
- Most models are now available with nylon brush (NB) seals. The nylon filaments conform extremely well to irregular surfaces such as carpet, stone and grout lines.
- Especially over uneven surfaces, both PemkoPrene™ (PK) and nylon brush (NB) provide excellent seals to keep out draft, dust, moisture, insects, fumes, light, and sound.
- All models (except #430 and #412) are non-handed and reversible. Installation is fast and easy because disassembly is not required to change handing: simply flip the automatic door bottom and you've reversed the hand. The clean symmetrical square-shaped case design also provides for even flush mounting.
- The line includes models which can be mounted to either wood or hollow metal doors.
- End plates are provided for all mounting applications.
- All Pemko automatic door bottoms seal up to a 3/4" gap under the door except 420 and residential models which seal 1/2" maximum.
- Available in any size ranging from 18" to 72".
- Lead line available upon request; consult Customer Service for options on profiles.
- The patented drop-bar seal actuation mechanism (all models) causes the drop-bar seal to always actuate on the hinge side first. This feature prevents the seal from skidding along the floor / threshold while the door is being closed. Door hang up will not occur.
- All Pemko automatic door bottoms are provided NET length.

- The patented drop-bar seal actuation mechanism (all models) causes the drop-bar seal to always actuate on the hinge side first. This feature prevents the seal from skidding along the floor / threshold while the door is being closed. Door hang up will not occur.
- Smoke Tested - UL1784 - tested in accordance with UL 1784-2001Air Leakage Tests of Door Assemblies, and meet the performance criteria for allowable air leakage as specified in NFPA 105-99 Installation of Smoke Control Door Assemblies. Meets the requirements for category H - Smoke Seals.

411ASL A - Mill Finish Aluminum with Black Sponge Silicone insert

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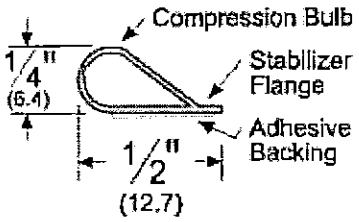


S88_

Pemko's SiliconSeal adhesive-backed fire/smoke gasketing.

- Seal begins compressing at 1/4". Compresses to seal up to a 1/16" gap.
- Available in black, clear, dark brown, gray, tan and white.
- S88 is available in 17, 18, 20, 21, 25, 30, 204 and 510 ft. coils.
- SiliconSeal™ is extruded from high-temperature silicone; effective between -58°F and 450°F.
- Self-extinguishing and non-toxic. Unaffected by sunlight, ozone and ultraviolet rays.
- Impervious to fungus and mildew; will not deteriorate under normal exposure.
- Meets FAR 25.853 Airworthiness Standards for Compartment Interiors.
- Smoke tested in accordance with UBC 7-2 and UL 1784-01; meets the requirements of NFPA 105 "Standard for the Installation of Smoke Door Assemblies and Other Opening Protectives".
- S44, S77 and S88 are air infiltration tested in accordance with ASTM E-283-04. Air infiltration is only .09 CFM / ft of crack.
- Category B - Doors - additional edge sealing system required - see Category G. Requires Category G system with gasket for fire and possibly smoke.
- Category G - Edge-Sealing Systems - systems that are surface applied to frames or doors and required for Category B doors.
- Category H - Gasketing - Smoke and draft control for positive pressure openings. Recommended products are PK33, PK55, S44, S88 and S773.
- Category H gaskets for use with listed steel frames and/or classified steel covered composite, hollow metal doors rated up to and including 3 hours; wood and plastic covered composite doors rated up to and including 1-1/2 hours; and wood core doors rated for 20 minutes without hose stream. When applied to the door and frame assembly in accordance with the manufacturers installation instruction, the assembly will comply

with UBC 7-2 (1997) part II.

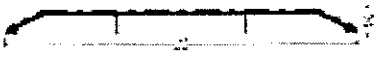
- Category J - Doors - gasketing that has been tested on a positive pressure fire door and frame but is not required for the door to obtain its fire door rating. Category J gasketing does not negatively affect the rating on a positive pressure door.
- Category J gaskets for use with listed steel frames and/or classified steel covered composite, hollow metal doors rated up to and including 3 hours; wood and plastic covered composite doors rated up to and including 1-1/2 hours; and wood core doors rated for 20 minutes.
- Category G
- Storage and shelf life: All adhesive gaskets have a limited shelf life. This product must be used within 6 months of purchase and must be stored between 50 degrees (F) and 100 degrees (F). For further notes/details, please see Adhesive Gasketing section.

S88D D - Dark Brown Silicone

151_

Saddle Threshold

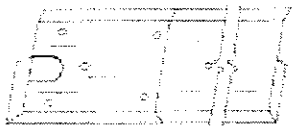
151A A - Mill Finish Aluminum



176_

Saddle Threshold

176A A - Mill Finish Aluminum



TYPE13

Floor Closer Threshold/Cover Plate Assembly

TYPE13

VON DUPRIN®

98/99™ Series Exit Devices

Security & Safety
Proven Source. Proven Solutions.™

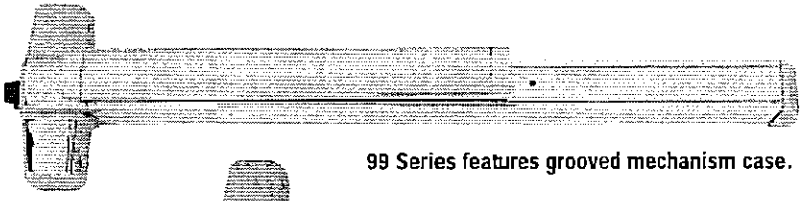
Introduction

Exit devices are a critical part of the Fire and Life Safety egress system and will provide safe and reliable service when properly applied and maintained. Von Duprin designs and manufactures exit devices in accordance to ISO 9001 Quality Management System and meets or exceeds accepted U.S. domestic and International standards. All 98 and 99 series exit devices are UL listed for Panic Hardware or Fire Hardware, and are certified to ANSI A156.3, 2001, Grade 1. Many models are also certified for Hurricane Resistant Applications. Consult your local IR Security & Safety consultant or the Von Duprin factory for current listings.

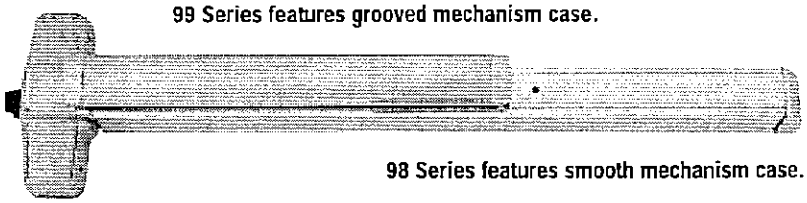
It is intended that the information included in this publication, when properly used, will provide clear and reliable guidelines to the proper general selection and application. However, the scope of the information is necessarily limited.

Unusual operating conditions and environments and other external influences can affect the proper application of the products represented. Modifications of these products will also affect UL listings. It is recommended that whenever an unusual application condition exists, or when any modification of a product is considered, that our engineers review the application.

Application engineering services are available to help ensure proper selection or to review any areas where users of Von Duprin products may have questions.



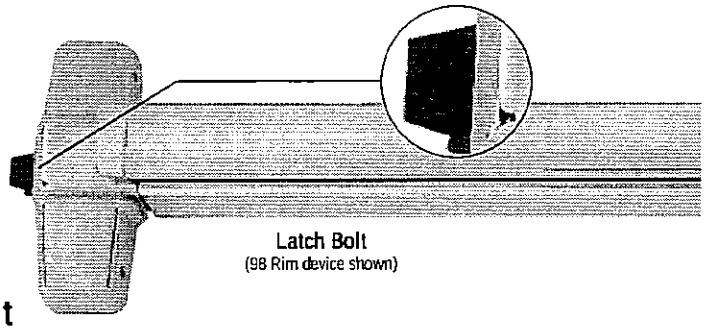
99 Series features grooved mechanism case.



98 Series features smooth mechanism case.

Von Duprin push pad exit devices are available in two external surface styles, designated 98 Series and 99 Series.

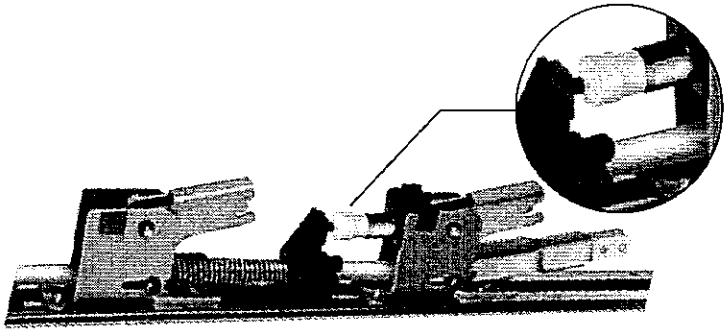
The two styles are mechanically and dimensionally identical and provide a wide selection of appearance options.



Latch Bolt
(98 Rim device shown)

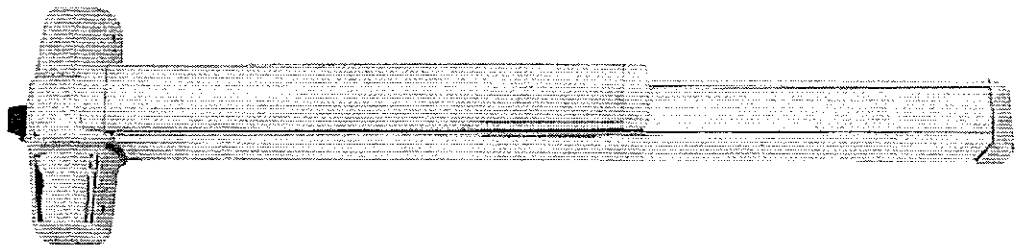
Latch Bolt

Deadlocking latchbolt provides security and improved performance at standard device cost.



The Quiet One®

A fluid dampener decelerates the pushpad on its return stroke and eliminates most noise associated with exit device operations. Furnished on all 98/99™ series exit devices.



299F Strike

499F Strike
With 9854/9954
Mullion

98-F and 99-F rim fire exit devices for all types of single doors up to 4' x 10' *(1219mm x 3048mm)* or 8' x 10' *(2438mm x 3048mm)* double doors with 9954 or 9854 mullion, UL listed for Fire Exit Hardware. **See page 41 for detailed information on UL listed fire exit hardware label and door opening size information.** Devices are ANSI A156.3 – 2001 Grade 1. The 98-F device has a smooth mechanism case and the 99-F device has a grooved case. The rim device is non-handed except when the following device options are used: -2 (Double Cylinder) or SS (Signal Switch). See Opposite page for available outside trim and device functions.

The 9B-F/99-F devices are available in the following finishes: US3, US4, US10, US26, US26D, US28, 313AN, 315AN and US32D for the 98-F device only. See page 52 for component finishes and the inside cover for finish chips.

Specifications

Device Functions	Device ships EO/DT/NL. Field selectable. For TP,K,or L remove NL drive screw from device		
Device Lengths	3'	2'4" to 3' (711mm to 914 mm) Door Size	
	4'	2'10" to 4' (864 mm to 1219 mm) Door Size	
Strikes	299F – Dull Black, 499F with Mullions Optional Strikes – see page 39		
Dogging Feature	No Mechanical Dogging, EL option available		
Electric Options	LX	Latchbolt Monitor Switch	see page 42
	RX	Pushpad Monitor Switch	see page 42
	RX2	Double Pushpad Monitor Switch	see page 42
	E	Electric Locking & Unlocking	see page 44
	EL	Electric Latch Retraction	see page 43
	SS	Signal Switch	see page 43
	CX	Chexit Delayed Exit	see page 45
	ALK	Alarm Exit Kit	see page 42
Miscellaneous Options	PN	Pneumatic Latch Retraction	see page 48
	-2	Double Cylinder	see page 48
	GBK	Glass Bead Kit	see page 49
Fasteners & Sex Bolts (SNB)	Includes 1 ¾" (19mm) – 2 ¼" (57mm) Wood & Metal Doors Optional SNB available for device, see next page for quantities Optional SLM Blocking Pkg for wood doors with SLM blocking SNB required for wood doors, unless SLM Blocking Pkg specified		
Latch Bolt	Deadlocking, ¾" (19mm) throw		
Device Centerline from Finished Floor	39 13/16" (1011 mm) 39 11/16" (1008 mm) with Mullion		
Center Case Dimensions	8" x 2 ¾" x 2 ⅜" (203mm x 70mm x 60mm)		
Mechanism Case Dimensions	2 ¼" x 2 ¼" (57mm x 57mm)		
Projection	Pushbar Neutral – 3 13/16" (97 mm) Pushbar Depressed – 3 1/16" (78 mm)		

See page 53 for How to Order specification

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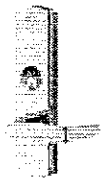
	Exit only	**Dummy Trim** Pull when Dogged (Not recommened for Fire Device)	**Night Latch** Key Retracts Latchbolt	**Night Latch** Key Retracts Latchbolt Optional Pull Required
Product Description	98EO-F 99EO-F	— —	98NL-F 99NL-F	98NL-OP-F 99NL-OP-F
Trim Description	—	990DT	990NL-R/V	110NL-MD 110NL-WD
Escutcheon Plate Size	—	3" x 14³⁄₁₆" x ³⁄₃₂" *(76x360x2mm)*	3" x 14³⁄₁₆" x ³⁄₃₂" *(76x360x2mm)*	—
Pull Center to Center	—	5½" *(140mm)*	5½" *(140mm)*	—
Projection	—	2" *(51mm)*	2" *(51mm)*	—
ANSI Function	01	02	03	03
Cylinder Type	—	—	Rim	Rim
Optional Trim (See pages 32 – 34)	x990EO x992EO x994EO x996EO	x991K-DT x992L-DT x994L-DT x996L-DT x696DT x697DT	x991K-NL x992L-NL x994L-NL x996L-NL x696NL x697NL	
#425 SNB optional-HMD Req. WD w/o SLM Pkg.	6	2	2	6
#825 SNB Req. WD w/o SLM Pkg.	2	2	2	2
#425 SNB Req. w/ 499F	2	2	2	2

	Lever Key Locks & Unlocks	**Lever – Night Latch** Key Retracts Latchbolt	**Lever – Blank Escutcheon** Always operable (No Cylinder)	**Lever Dummy Trim** Pull when Dogged (Not recommened for Fire Device)
				
Product Description	98L-F 99L-F	98L-NL-F 99L-NL-F	98L-BE-F 99L-BE-F	— —
Trim Description	996L-R/V	996L-NL-R/V	996L-BE-R/V	996L-DT-R/V
Escutcheon Plate Size	2¾" x 10¾" x ²⁷⁄₃₂" *(70x273x21mm)*	2¾" x 10¾" x ²⁷⁄₃₂" *(70x273x21mm)*	2¾" x 10¾" x ²⁷⁄₃₂" *(70x273x21mm)*	2¾" x 10¾" x ²⁷⁄₃₂" *(70x273x21mm)*
Pull Center to Center	—	—	—	—
Projection	2⅞" *(73mm)*	2⅞" *(73mm)*	2⅞" *(73mm)*	2⅞" *(73mm)*
ANSI Function	08	09	—	02
Cylinder Type	Rim	Rim	—	—
Optional Trim (See pages 32 – 34)	x992L x994L	x992L-NL x994L-NL	x992L-BE x994L-BE	x992L-DT x994L-DT
#425 SNB optional-HMD Req. WD w/o SLM Pkg.	2	2	2	2
#825 SNB Req. WD w/o SLM Pkg.	2	2	2	2
#425 SNB Req. w/ 499F	2	2	2	2

For optional trims and functions see pages 32-34

VON DUPRIN. E996L Electrified Breakaway™ Lever Trim

E996L electrified Breakaway lever trim provides remote locking and unlocking capabilities while incorporating the patented Breakaway trim design.

The 24VDC solenoid can be energized from a distant controller, thus allowing access control of the opening. The control of stairwells in high-rise buildings is a common application for this trim.

When electrically unlocked the unit operates as a normal lever trim. When electrically locked, the lever feels locked, but when more than 35 pounds of torque pressure is applied, the Breakaway lever feature engages.

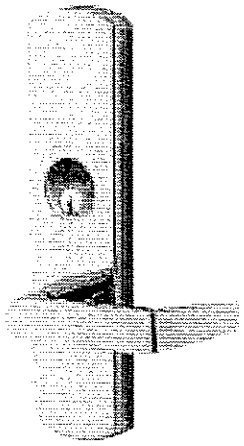
The E996L is provided standard in a fail safe (FS) condition, but can be field converted to a fail secure (FSE) where allowed. The trim can be ordered with a device, added to an existing 98/99 series device application, or a conversion kit can be added to an existing 996L Breakaway lever trim. On new construction applications, the E996L trim will require less door prep.

The E996L is available with a blank escutcheon (BE) function, or with a cylinder for night latch function.

The E996L electrified trim replaces the current "E" electric feature on 98/99 series rim devices. Consult factory for requirements.

To Order, Specify:

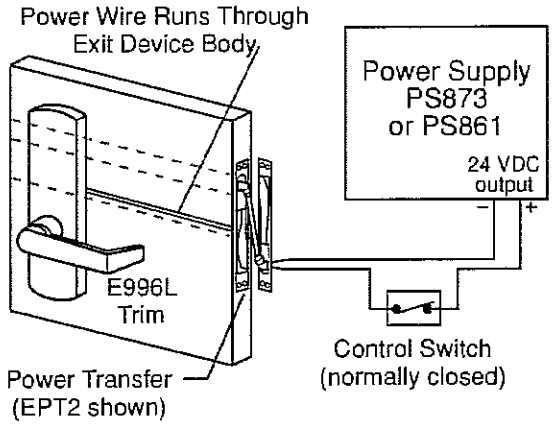
1. Use "E" prefix, example E996L.
   When ordering with device specify trim series with "E" prefix, example 9927L-BE 3' US26D E996.
2. Device type, R/V (rim/surface or concealed vertical rod) or M (mortise).
3. RHR is furnished standard if not specified. Field reversible.
4. Lever style (06 lever is furnished standard).
5. Finish: US3, US4, US10, US10B, SP313, US26, US26D, SPBLK, US15



SPECIFICATIONS
Solenoid – Continuous Duty 24VDC
Solenoid Draw – 0.22 amp

E996L ELECTRICAL WIRING

- Power input for E996L is 24VDC
- Two wires on trim are non-polarized (18 AWG minimum)


Power Wire Runs Through Exit Device Body
Power Supply PS873 or PS861
24 VDC output
E996L Trim
Control Switch (normally closed)
Power Transfer (EPT2 shown)

LEVER DESIGN OPTIONS

#01

#02

#03

#05

#06 Standard

#07

#12 Handed

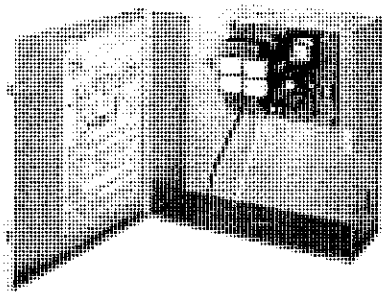
#16

#17

#18

Electrical Accessories

Power Supplies
PS861 Power Supply



Standard
UL Listed
Class 2, Power Supply
UL1012
UL1310

The series PS861 power supply is designed for electric locking or monitoring on single or double door applications. The output power is field selectable for either 24 VDC @ 1 ampere or 12 VDC @ 2 ampere. Standard input 120 VAC @ 0.6 ampere and 240 VAC @ 3.0 ampere available. The terminal block will accept up to 14 gauge stranded wire.

The gray enclosure is 10" x 10" x 4" *(254mm x 254mm x 102mm)*, has a hinged cover, and is constructed of heavy 19 gauge steel. Six ½" *(13mm)* knockout holes are provided for conduit connection.

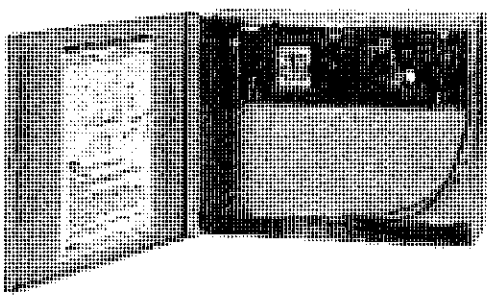
Options include keylock cover or Battery Backup. The pair of batteries, which are sealed lead acid battery packs, will provide back-up power for three hours at full load or seven hours at half load. Batteries will automatically recharge when failed power is restored.

Four Models:

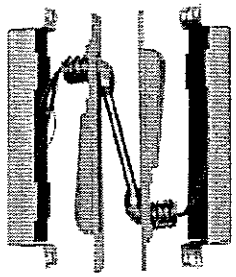
PS861	Standard supply
PS861K	Standard supply with keylock cover
PS861B	Battery backup
PS861FA	Fire Alarm
PS861BK	Battery backup and keylock cover
PS861BKFA	Battery backup and keylock cover with FA board (24VDC only)

PS9 Power Supply

The PS9 is an AC power supply that provides 9 VDC power to operate the ALK alarm kit. The unit will power one or two alarm kits. Included is a 9-volt sealed battery that provides backup power in case of an AC power failure.



Electrical Power Transfer — EPT
Pneumatic Transfer – PNT



Electric Power Transfer provides a means of transferring electrical power from a door frame to the edge of a swinging door. The units are completely concealed when the door is in the closed position, and are ideally suite for installations involving abuse or heavy traffic.

Two models are available; EPT-2, two 18 gauge wires and EPT-10, ten 24 gauge wires. The EPT-2 and EPT-10 are U/L listed as "miscellaneous door accessory".

Pneumatic Controls

PNT-1 is available for pneumatic latch retraction exit devices. Appearance and dimensions are identical to EPT models.

UL Listed for use on firedoors

Door applications:
up to 5" butt hinges – 180° swing,
5 ½" butt hinges – 130° swing,
6" butt hinges – 110° swing,
¾" butt offset pivots 180° swing.

Not for use with swing clear hinges or center-hung pivots.

Finishes

SP28 (sprayed aluminum)

SP313 (sprayed duranodic).

Dimensions

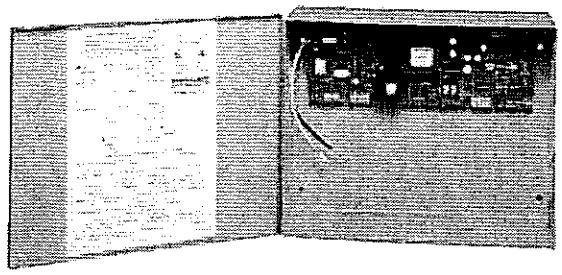
Housing	9" x 1 ¼" x 1 ⅝" *(229mm x 32mm x 38mm)*
EPT-2	Two 18 gauge wires, Up to 2 AMPS @ 24VDC, with a 16 AMPS Maximum Surge
EPT-10	Ten 24 gauge wires, Up to 1 AMPS @ 24VDC, with a 16 AMPS Maximum Surge
PNT-1	5/32" Tubing

To order, specify:

1. EPT-2 ,EPT-10 or PNT-1.
2. Finish, SP28 or SP313.

Electrical Accessories

Power Supplies



SERIES PS873

The series PS873 power supply is designed to operate a wide variety of electrical products. EL panics require 871-2 PCB minimum. The regulated output power is field selectable for either 24VDC @ 2 ampere or 12VDC @ 4 ampere. Standard input 120VAC @ 1.0 ampere or 240VAC @ 0.5 ampere available. Enclosure is 10" high x 12½" wide x 5" deep *(254mm x 323mm x 127mm)*, gray with a hinged cover and constructed of heavy 19 gauge steel. Five ½" x ¾" *(13mm x 19mm)* knockout holes are provided for conduit connection. Terminal block will accept up to 12 gauge wire.

The PS873 can be ordered with three standard options: **Key lock** secures the cover to eliminate tampering and provides safety; **Battery backup** provides two hours backup power at full load during a A.C. power failure. Batteries will automatically recharge when failed power is restored. **Fire Alarm** provides input for a normally closed fire alarm contact. When the fire alarm contact is "open", power to locks or other component is removed. Restoring power is field selectable for automatic or manual.

Eight standard configurations:

PS873	Standard
PS873K	With keylock
PS873B	With battery
PS873BK	With battery and keylock
PS873FA	With fire alarm
PS873K-FA	With keylock and fire alarm
PS873B-FA	With battery and fire alarm
PS873BK-FA	With battery, keylock and fire alarm

The series PS873 is available with several optional circuit cards to provide system flexibility. The power supply will accept one or a combination of any two cards.

Factory or Field Installed Circuit Cards:

871-2, Two Zone controller provides two inputs and two outputs. Will operate one or two EL exit devices. Use suffix "-2" for factory installed, example PS873-2.

873-AL, Alarm function monitors 1 or 2 zones and provides alarm output, upon detecting a door in the open position. Delayed alarming is selectable from 5 to 75 seconds. Use suffix "-AL" for factory installed, example PS873-AL

873-AO, Auto Operator function coordinates the release of one or two locks and signals an auto-operator to open a door. Signaling the auto operator can be performed in two methods; by receiving a signal from a monitoring switch that the lock is unlatched, or upon expiration of a time delay triggered by a "RX" type input switch. Use suffix "-AO" for factory installed, example PS873-AO

873-SI, Security/Safety Interlock provide interlock function for two zones. When combined with a second 873-SI card, the inter-locking of groups are available in two, three or four zones. Safety interlock is available, consult factory for additional information. Use suffix "-SI" for factory installed, example PS873-SI

873-4TD, Four Zone controller with **Time Delay** provides four inputs and four outputs with time delay. Time delay is field selectable from 0 to 75 seconds, in intervals of 5 seconds. Will operate up to 4 EL devices. Use suffix "-4TD" for factory installed, example PS873-4TD

873-AC, Access Control provides supervision of one zone using an electromagnetic lock. Input signals required are: access control contact, motion detector contact, and motion detector override contact. FA, Fire Alarm option is required. Use suffix "-AC" for factory installed, example PS873-AC

Factory Installed Only Circuit Card

873-DE, Delayed Egress provides 15 second delay release from pushbar activation to electro-magnetic lock release. Ideal function for use with Locknetics electromagnetic locks, will operate two zones simultaneously. To operate two separate zones, a second 873-DE card is required. UL listed component, when used as part of a Von Duprin delayed egress system. Use suffix "- DE", example, PS873-DE.

Note: "DE" cards CANNOT be combined with any other optional cards.

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LCN 4040 SERIES

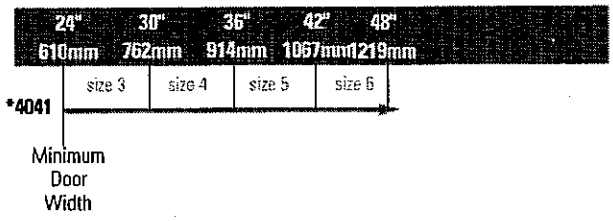
ORDERING INFORMATION

TABLE OF SIZES

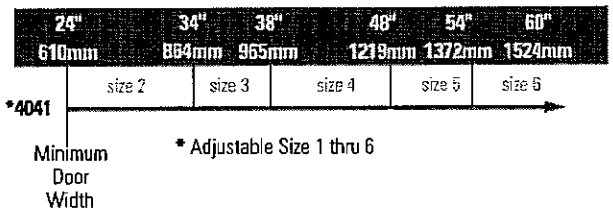
4041 cylinders are adjustable from size 1 through size 6 and is shipped set to size 3.
Closing power of 4040 series closers may be adjusted 50%.

⟶ Indicates recommended range of door width for closer size.

EXTERIOR (and VESTIBULE) DOOR WIDTH



INTERIOR DOOR WIDTH



* Adjustable Size 1 thru 6

REDUCED OPENING FORCE 4040 SERIES CLOSERS

CAUTION ! Any manual door closer, including those certified by BHMA to conform to ANSI Standard A156.4, that is selected, installed and adjusted based on ADA or other reduced opening force requirements may not provide sufficient power to reliably close and latch a door.

Refer to POWER OPERATORS section for information on systems that meet reduced opening force requirements without effecting closing power.

DOOR WIDTH	36"	42"	48"
8.5* lbs.	4041	4041	4041
5.0* lbs.	4041	4041	4041

** Maximum opening force*

HOW-TO-ORDER 4041 SERIES CLOSERS

1. SELECT FINISH.

☐ Standard Powder Coat _____
Aluminum, Dark Bronze , Statuary, Light Bronze, Black, Brass.

Closer will be shipped with:
- STANDARD CLIP-ON COVER,
- REGULAR ARM,
- SELF-REAMING and TAPPING SCREWS, unless options listed below are selected.

CLOSER OPTIONS

CYLINDER
☐ Delayed Action (DEL)
COVER
☐ Metal (specify right or left hand) (MC)
FINISH
☐ Custom Powder Coat (RAL) _____
(handed metal cover required)
☐ Plated Finish, US _____
(handed metal cover required)
☐ SRI primer
ARM
☐ Regular w/62PA (Rw/PA)
☐ Regular w/62A (R/62A)
☐ Long (LONG)
☐ Extra Long (XLONG)
☐ Hold-Open (H)
☐ Hold-Open w/62PA (Hw/PA)
☐ Long Hold-Open (HLONG)
☐ EDA (optional -62G)
☐ HEOA (specify right or left hand, optional-62G)
☐ Cush-N-Stop (CUSH)
☐ HCush-N-Stop (HCUSH)
☐ Spring Cush (SCUSH)
☐ Spring HCush (SHCUSH)
OPTIONAL SCREW PACKS
☐ TB* w/Self-Reaming and Tapping (TBSRT)
☐ Wood & Machine Screw (WMS)
☐ TB*, Wood & Machine Screw (TBWMS)
☐ TORX Machine Screw (TORX)
☐ TB* & TORX Machine Screw (TBTRX)
* Specify door thickness if other than 1 3/4".
INSTALLATION ACCESSORIES
☐ Plate, 4040-18
☐ Plate, 4040-18TJ
☐ Plate, 4040-18G
☐ Plate, 4040-18PA
☐ CUSH Shoe Support, 4040-30
☐ Blade Stop Spacer, 4040-61
☐ Auxiliary Shoe, 4040-62A
☐ PA Flush Panel Adapter, 4040-419
SPECIAL TEMPLATE
☐ ST-_____

LCN CLOSERS
121 W. RAILROAD AVE.
P.O. BOX 100
PRINCETON, IL, USA 61356-0100

PHONE 800-526-2400
FAX 800-248-1460
www.lcn.ingersollrand.com
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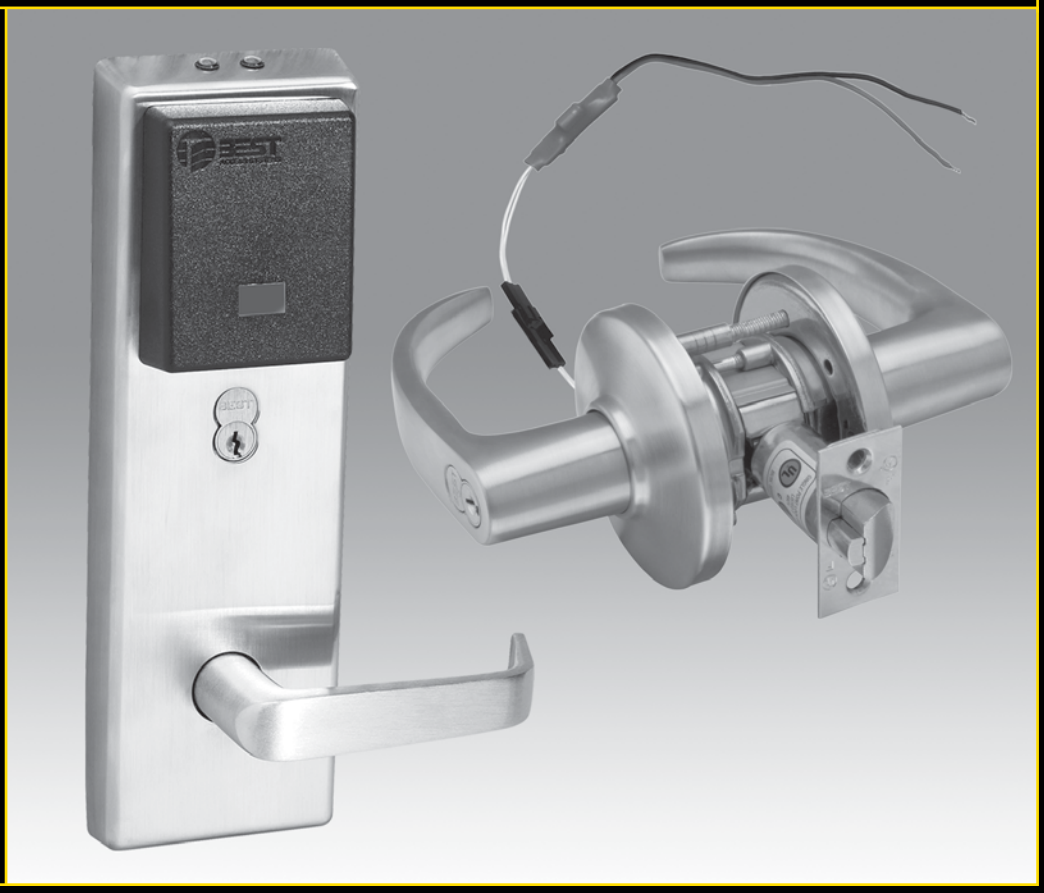
STANLEY®
Security Solutions



W&M SERIES

IDH MAX® & ELECTROMECHANICAL LOCKS

STANLEY
BEST
ACCESS SYSTEMS

IDH MAX® & ELECTROMECHANICAL LOCKS

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IDH MAX® — INTRODUCTION

The IIDH MAX® from Stanley Security Solutions offers convenience and efficiency for your electrified lock applications. Instead of installing reader devices, installing electrified strikes, installing door contacts and installing request-to-exit devices, you can now install the IDH MAX® in cylindrical or mortise lock applications. With IDH MAX® all of the formerly separate equipment needed to control access are self-contained in a single installation. The complexity of multiple wire runs is drastically reduced.

You can let Stanley Security Solutions show you how to MAXimize your access control system with the IDH MAX®! For the name and location of your local office, visit our web site at www.stanleysecuritysolutions.com. IDH MAX® and W series locks (with the exception of the IDH Max® 1300) are compatible with Stanley's NT500 and B.A.S.I.S. Acess Control Systems.

IDH MAX® — FEATURES

IDH Max® Features

- Includes latch and door position indicator, RQE switch.
- The 1300 option eliminates the need for a RIM (reader interface module) which is embedded behind the escutcheon
- Requires only one 4 conductor wire run
- Reduces number of components installed and visible at the door (PIR, RQE push buttons and door contacts)
- Installation time is reduced
- The RQE switch senses the inside lever/knob rotation.
- All of the door components are housed in one manufacturer's hardware
- With the elimination of components, only the lockset is visible at the door
- The reader is integrated into the lockset escutcheon
- Available in magnetic stripe and proximity readers
- Available in all popular lever/knob styles and finishes
- Operates with BEST interchangeable core as a mechanical override
- Integrates with many manufacturer's on-line EAC equipment

Mortise Features

- Lock case meets the requirements as listed in the ANSI/BHMA A156.13 standard for Series 1000, Grade 1 Operational and Grade 2 Security locks
- UL listed for GYQS Electrically controlled single point locks or latches for use on 3 hr, A label doors (4′x 10′). The listing applies for both U.S. and Canadian applications
- Door contact, request-to-exit, and latch status sensors positioned inside lock case
- The 1300 option eliminates the need for a RIM (reader interface module) which is embedded behind the escutcheon
- The door contact magnet is installed behind the strike and out of site (except when deadbolt option is ordered)
- All sensors are standard in IDH Max mortise locks
- The heavy duty design of the mortise lock makes easy field maintenance and reduces risk of part failure

Mortise Features (continued)

- Twist off lever spindle design protect internal lock parts from damage and failure.
- Oil impregnated stainless steel 3/4″ anti-friction latchbolt reduces door closing force and wear.

Cylindrical Features

- Non-handed levers allow for ease of installation
- Lock chassis meets the requirements as listed in the ANSI/BHMA A156.2, standard for Series 4000 Grade 1 locks
- UL listed for GYQS Electrically controlled single point licks or latches for use on 3 hr, A label single doors (4′x 10′) GYJB. The listing applies for both U.S. and Canadian applications
- Request-to-exit sensor positioned inside lock trim
- The ISC (Intelligent System Controller) is embedded behind the escutcheon secured and out of site
- Request-to-exit and door contact sensors are standard in IDH MAX cylindrical locks

Magnetic Stripe Electronic Lock Features

- Durable material has teflon-like characteristics for increased life and wear resistance
- Variable read rate allows for easy usage

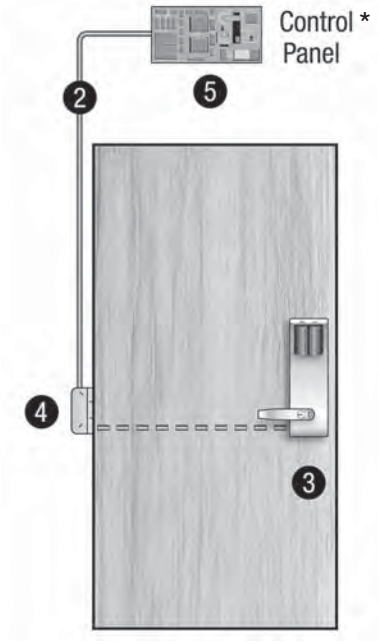
Proximity Card Reader Features

- HID and Motorola/Indala proximity cards supported
- UL listed for GYQS Electrically controlled single point locks or latches.
- Usable in all environmental/exterior applications.

1300 Option Features

- Eliminates need for small panel interface module
- Eliminates reader interface board
- Incorporates 3 modules into a single electronics board inside IDH Max escutcheon trim
- Connects directly to ACP via 2 wire RS485 connection

IDH MAX® & IDH MAX® 1300 COMPARISON CHART



IDH MAX®

1. Prep door for IDH MAX®
2. Run single 4 conductor wire for IDH MAX®
3. Install IDH MAX®
4. Install electrified hinge
5. Mount control panel

* Operates with any control panel hardware, including B.A.S.I.S. control panels.

IDH MAX® 1300

1. Prep door for IDH MAX®
2. Run single 4 conductor wire for IDH MAX® 1300
3. Install IDH MAX® 1300 which includes Intelligent System
4. Install electrified hinge

** Operates with B.A.S.I.S. control panels only.

HM, KM, HW & KW – OPTIONS

AL– Besides complying with a wide variety of accessibility codes and ordinances, lever handles are available with a special abrasive feature. Abrasive strip on the lever immediately identifies warnings on doors to hazardous areas for the blind.

BRK– When excessive force (approx. 300 inch lbs.) is applied to #4, #6 keyed knobs, they "breakaway" and spin freely, thus allowing entrance only by key. Simple part replacement returns lock to functional usage.

IDH– The integrated Door Hardware groups three components into one hardware package. **1**. Door monitoring switch (normally closed) **2**. Request-to-Exit switch (normally open) **3**. Electrically controlled locking mechanism.

KNL– Knurl feature is available only on #6 knobs. The knurling is machined into the outer edge of the knob. The knurled feature can be used for blind, safety, or accessibility applications.

LL– Lead lined feature can be used to protect against X-rays. Since the majority of lead lined doors contain the lead in the surface of the door, the knob lockset provide lead lining for the holes cut in the door when preparing the door for the trim.

LM– The Lost Motion feature allows the lever handle to move 45 degrees from parallel to the horizontal plane without engaging the latchbolt assembly. When the lockset is in the locked mode, this feature makes over-torque or over-lever-age abuse more difficult to achieve.

SH– Security head provided for all exposed screws.

RQE– Cylindrical or Mortise locksets can be supplied with a request-to-exit switch. A normally open switch provides momentary switch closure when the inside lever/knob is rotated.

TAC– Grooves are machined into knobs to improve grip or to be used as a warning in hazardous areas. This option can be used for blind, safety or accessibility applications.

Thick door– Specify thickness if other than 1 ¾".

TL– Tactile levers may be used in areas where improved grip is required or as a warning in hazardous or Safety First areas. Grooves are machined into the back of the hand grasp portion of the lever to improve grip and/or provide a sensory warning. This option can be used for blind, safety, or accessibility applications.

1300– Integrated BAS1300/LNL1300 reader electronics board or (ISC) Intelligent System Controller is embedded behind the escutcheon secured and out of site. Functions with B.A.S.I.S./Mercury on-line equipment only.

40HM IDH MAX® – SPECIFICATIONS

MECHANICAL

Case— Heavy wrought steel, 5 7/8″ H x 4 1/4″ D x 1″ W steel parts are zinc dichromate plated for corrosion protection.
Faceplate— Brass or bronze, 1 1/4″ x 8″ x 7/32″. Armored. Adjustable from flat to beveled 1/8″ - 2″.
Strike— Brass, bronze or Stainless Steel, 4 7/8″ x 1 1/4″ x 3/32″. Fits standard door frame cut out as specified in ANSI A115.1.Correct strike automatically supplied with unit. Strike box supplied standard.
Door thickness— For doors 1 3/4″ – 4″ thick.
Installation— Lock requires modified door prep to mount the trim. Faceplate dimensions fit standard door preparation as specified in ANSI A115.1,. Lockset is reversible for hand of door.
Latchbolt— Stainless steel, 3/4″ throw with anti-friction latch.
Deadbolt— Solid stainless steel, 1″ throw.
Auxiliary bolt— Stainless steel.
Die cast trim housing—Dimensions: 10 3/8″ H x 3 1/4″ W x 1″ D sloping down to 3/4″.
Knobs— Diameter: 2 1/8″ Projection on door: 2 7/8″
#4, #6 knobs: Material machined from brass or bronze.
Lever handle— Brass, bronze or stainless steel. (Lever #3, #14 and #15 conform to California Titles 19 and 24.)
Mounting— Knob and lever attached with hardened set screw on inside knob or inside lever.

45HM IDH MAX® Mortise

Finish— 605-bright brass, clear coated; **606**-satin brass, clear coated; **611**-bright bronze, clear coated; **612**-satin bronze, clear coated; **613**-oxidized satin bronze, oil rubbed; **625**-bright chromium plated; **626**-satin chromium plated; **629**-bright stainless steel; **630**-satin stainless steel; **690**-dark bronze.

ELECTRONIC

ANSI
American National Standards Institute
11 West 42nd Street, New York, NY 10036

BHMA CERTIFIED

Maximum current draw: 1.1 Amp for 50 milliseconds
Typical current draw (hold condition): 650 milliAmps
Voltage: 10.2 to 13.2 V (DC only)
Operating Temperature: Minimum/Maximum range **Inside:** 70˚± 4˚F (21˚± 2˚C) **Outside:** -31˚F (-35˚C) to +151˚F (+66˚C)

Magnetic Stripe Card Reader:

Read Rate: 5 inches per second to 50 inches per second.
Card thickness: ISO standard .030″ ± .003 thick.
Compliance to FCC, Canadian, and European EMC requirements; for interference FCC Class A digital apparatus.
Magnetic Stripe adaptation: Trim option that can accept other manufacturers cylinder.

Proximity Reader:

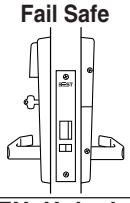
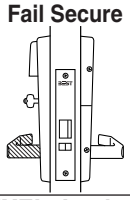
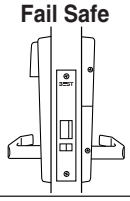
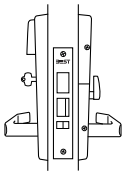
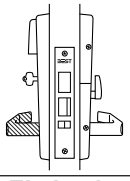
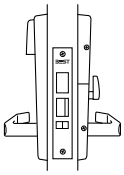
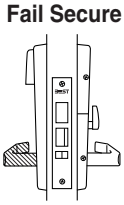
ANSI/BHMA A156.25 compliant. Compatible with Motorola / Indala and HID proximity cards. ABA and Wiegand output. Weatherproof bezel and gasket provide protection for outdoor use. (Usable in all environmental/exterior applications)
Card Read Range: 0 – 3 inches. Compliance to US FCC, Canadian FCC, and European EMC requirements
ESD Protection:15 Kilo Volt

40HM IDH MAX®– HOW TO ORDER

45HM	7	DEU	14	MS	626	RH	KNL
Series	**Core Housing**	**Function**	**Lever/Knob Style**	**Trim Style**	**Finishes †**	**Handing**	**Options†**
45HM– IDH Max™	**0–** Keyless or less cylinder, **7–** 7 pin housing ONLY	**DEL–** electrically locked **DEU–** electrically unlocked **NXEL–** electrically locked **NXEU–** electrically unlocked **TDEL–** electrically locked **TDEU–** electrically unlocked **LEL–** electrically locked **LEU–** electrically unlocked (page 5)	**Levers** **3–** solid tube return **12–** solid tube **14–** curved return **15–** curved angle return **16–** curved no return **17–** gullwing no return **Knobs** **4–** round (page 11)	**MS–** magnetic stripe **PM–** proximity Motorola **PH–** proximity HID **MSA–** other cylinder **PHA–** other cylinder **PMA–** other cylinder (page 11)	**605 606** **611 612** **613 618** **619 625** **626 690**	**RH** **RHRB** **LH** **LHRB**	**SH –** security head screws **TAC –** tactile lever **Thick Door –** specify thickness if other than 1 3/4″ **7/8" LTC–** flat lip strike **1300 –** B.A.S.I.S. direct connect (page 3)

**Must specify key mark and number of keys or designate L/C for less core. †See H Series catalog for details.

STANLEY BEST ACCESS SYSTEMS

Function	Latch	Outside Knob/Lever		Inside Knob/Lever	
	Operated by	Locked by	Unlocked by	Locked by	Unlocked by
DEL–Locked Fail Safe 	• Outside knob/lever when power is removed from the solenoid • Outside key • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Applying power to the solenoid; remains locked while power is on.	Removing power from the solenoid	Cannot be locked	Always unlocked
	Powered by 12V DC. temperature control module is not needed.				
DEU–Unlocked Fail Secure 	• Outside knob/lever when power is applied to the solenoid • Outside key • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Removing power from the solenoid	Applying power to the solenoid; remains unlocked while power is on.	Cannot be locked	Always unlocked
	Powered by 12V DC. temperature control module is not needed.				
NXEL–Locked Fail Safe 	• Outside knob/lever when power is removed from the solenoid • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Applying power to solenoid; remains locked while power is on.	Removing power from the solenoid	Cannot be locked	Always unlocked
	Powered by 12V DC. temperature control module is not needed.				
NXEU–Unlocked Fail Secure	• Outside knob/lever when power is applied to the solenoid • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Removing power from the solenoid	Applying power to the solenoid; remains unlocked while power is on.	Cannot be locked	Always unlocked
	Powered by 12V DC. temperature control module is not needed.				
TDEL–Locked Fail Safe 	• Outside key • Outside knob/lever when power is removed from the solenoid. • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Applying power to the solenoid; remains locked while power is on. **Deadbolt operated by:** • Outside key • Inside thumb turn	Removing power from the solenoid **Deadbolt and Latchbolt retracted simultaneously by:** • Inside knob/lever • Outside knob/lever when power is removed	Cannot be locked	Always unlocked
	Powered by 12V DC. temperature control module is not needed.				
TDEU–Unlocked Fail Secure 	• Outside key • Outside knob/lever when power is applied to the solenoid • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Removing power from the solenoid **Deadbolt operated by:** • Outside key • Inside thumb turn	Applying power to the solenoid; remains locked while power is on. **Deadbolt and Latchbolt retracted simultaneously by:** • Inside knob/lever • Outside knob/lever when power is applied	Cannot be locked	Always unlocked
	Powered by 12V DC. temperature control module is not needed.				
LEL–Locked Fail Safe 	• Outside knob/lever when power is removed from the solenoid • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Applying power to the solenoid; remains locked while power is on. **Deadbolt extended by:** Inside thumb turn	Removing power from the solenoid **Deadbolt retracted by:** • Inside thumb turn • Inside knob/lever retracts the deadbolt and latchbolt simultaneously • Outside lever when power is removed	Cannot be locked	Always unlocked
	Powered by 12V DC. temperature control module is not needed.				
LEU–Unlocked Fail Secure 	• Outside knob/lever when power is applied to the solenoid • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Removing power from the solenoid **Deadbolt extended by:** Inside thumb turn	Applying power to the solenoid; remains locked while power is on. **Deadbolt retracted by:** • Inside thumb turn • Inside knob/lever retracts the deadbolt and latchbolt simultaneously • Outside knob/lever when power is applied	Cannot be locked	Always unlocked
	Powered by 12V DC. temperature control module is not needed.				

9KM IDH MAX® – SPECIFICATIONS

MECHANICAL

Materials— Internal parts are brass, zinc or corrosion-treated steel.
Chassis— 2 1/16″ diameter to fit 2 1/8″ diameter hole in door.
Strike— Brass or bronze, 4 7/8″ x 1 1/4″ x 3/32″. Fits standard door frame cut out as specified in ANSI A115.1. Correct strike automatically supplied with unit. Strike box supplied standard.
Backset— 2 3/4″ standard, 3 3/4″ and 5″ available.
Door thickness— For doors 1 3/4″ – 2 1/4″
Installation— Lock dimensions requires modified door prep ANSI A156.2 Series 4000, Grade 1 to mount housing.
Latchbolt— 9/16″ throw.
Die cast trim housing— Dimensions: 10 3/8″ H x 3 1/4″ W x 1″ D sloping down to 3/4″.
Knobs— Diameter: 2 1/8″ Projection on door: 2 7/8″
#4, #6 knobs: Material machined from brass or bronze.
Lever handle— Made from high-quality zinc alloy. Body is approximately 1 5/8″ in diameter: Handle is approximately 4 3/4″ in length (from center-line of chassis). (Lever #14,15 conform to California Titles 19 and 24.)
Finish— 605-bright brass, clear coated; **606**-satin brass, clear coated; **611**-bright bronze, clear coated; **612**-satin bronze, clear coated; **613**-oxidized satin bronze, oil rubbed **625**-bright chromium plated; **626**-satin chromium plated; **690**-dark bronze.

93KM IDH MAX® Cylindrical

ELECTRONIC

Maximum current draw: 850 MilliAmps, for 50 milliseconds
Typical current draw (hold condition): 550 milliAmps
Voltage: 10.2 to 13.2 V
Operating Temperature:
Minimum/Maximum range **Inside:** 70˚± 4˚F (21˚± 2˚C) **Outside:** -31˚F (-35˚C) to +151˚F (+66˚C)

ANSI
American National Standards Institute
11 West 42nd Street, New York, NY 10036

BHMA CERTIFIED

Magnetic Stripe Card Reader:

Read Rate: 5 inches per second to 50 inches per second.
Card thickness: ISO standard .030″ ±.003 thick. Compliance to FCC, Canadian, and European EMC requirements; for interference FCC Class A digital apparatus.
Magnetic Stripe adaptation: Trim option that can accept other manufacturers cylinder.

Proximity Reader:

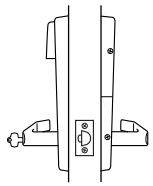
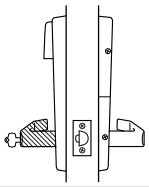
ANSI/BHMA A156.25 compliant, Compatible with Motorola / Indala and HID proximity cards, ABA and Wiegand output Weatherproof bezel and gasket provide protection for outdoor use. (Usable in all environmental/exterior applications).
Card Read Range: 0 – 3 inches. Compliance to US FCC, Canadian FCC, and European EMC requirements
ESD Protection: 15 Kilo Volt

9KM/8KM IDH MAX®- HOW TO ORDER

93KM	7	DDEU	14	MS	STK	626	TL
Series	**Core Housing**	**Function**	**Lever*/Knob Style**	**Trim* Style**	**Strike Package**	**Finishes***	**Options**
Lever **93KM**– 2 3/4″ **94KM**– 3 3/4″ **95KM**– 5″ **Knob** **83KM**– 2 3/4″ **84KM**– 3 3/4″ **85KM**– 5″	**0**– keyless **7**– 7 pin housing accepts all BEST cores	**DDEU**– electrically-unlocked **DDEL**– electrically-locked (page 7)	**Lever** **14**– curved return **15**– contour angle return **16**– curved no return **Knob** **4**– round **6**– tulip (page 11)	**MS**– magnetic stripe **PM**– proximity Motorola **PH**– proximity HID (page 11)	**STK**– 2 3/4″ ANSI **S3**– 4 7/8″ ANSI	**605 606** **611 612** **613 618** **619 625** **626 690**	**8KM:** **BRK –** breakaway knob **KNL –** knurled knob **TAC –** tactile knob **9KM:** **AL –** abrasive lever **LM –** lost motion **TL –** tactile lever **Note:** specify inside (I), outside (O), or both (B) for AL, TL,TAC, KNL options **Both 8KM & 9KM:** **SH –** security head screws **3/4 –** 3/4″ throw latch **1300 –** Integrated BAS1300/ LNL1300 reader electronic board (page 3)

* Handles and trim are made from a zinc alloy, and have been plated to be equivalent in appearance to the finishes listed.

9KM IDH MAX® — FUNCTIONS

Function	Latch	Outside Knob or Lever		Inside Knob or Lever	
	Operated by	Locked by	Unlocked by	Locked by	Unlocked by
DDEL–Locked 	• Rotating the inside knob/lever, • Rotating the outside knob/lever—only when power is off, • Turning the key in the outside knob/lever.	Applying 12 volts DC. The outside knob/lever remains locked only while power is on.	Switching off 12 volts DC	Cannot be locked	Always unlocked
	Powered by 12V DC. Temperature control module (TCM) is not needed.				
DDEU–Unlocked 	• Rotating the inside knob/lever, • Rotating the outside knob/lever—only when power is on, • Turning the key in the out side knob/lever.	Switching off 12 volts DC	Applying 12 volts DC. The outside knob/lever remains unlocked only while power is off.	Cannot be locked	Always unlocked
	Powered by 12V DC. Temperature control module (TCM) is not needed.				

Shading indicates a ridged lever/knob in a non-energized state.

40HW/8KW/9KW ELECTRIFIED LOCK INTRODUCTION

The 40HW, 8KW, and 9KW electromechanical locks provide fail-safe (electrically locked) and fail-secure (electrically unlocked) operation. They also provide a way to lock and unlock the door from a remote location for safety, security, or convenience through an individual switch, switch lock, relay, access control system, or other automatic control system. More importantly, these locks exhibit the same features and meet the same standards and specifications as our mechanical 40H mortise and 8K/9K heavy duty cylindrical locksets.

40HW ELECTRIFIED — SPECIFICATIONS

Types:

- 12 volts AC or DC — 0.60 amps
- 24 volts AC or DC — 0.45 amps
- **All EU functions:** Electrically Unlocked (Fail Secure)
- **All EL functions:** Electrically Locked (Fail Safe)

Approval Listings:

- UL listed for GYQS Electrically-controlled singlepoint locks or latches.
- This product has been approved by the California State Fire Marshal (CSFM) pursuant to section 13144.1 of the California Health and Safety Code.
- Approved by the city of New York Board of Standards and Appeals under calendar number 49-88-SA. See CSFM listing No. 4136-1175:101 for allowable values and/or conditions fo use concerning material presented in this document. It is subject to re-examination,revisions and possible cancellation.

NOTE: All W-series locks require the use of a (TCM) Temperature Control Module. A TCM and TCM connector are supplied standard with every order.

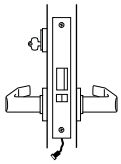
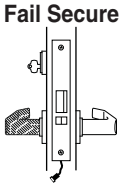
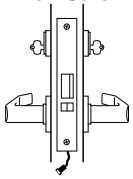
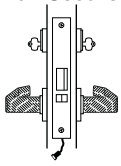
40HW Mortise Electrically-Operated Lockset

40HW ELECTRIFIED – HOW TO ORDER

45HW	7	NXEU	12	J	612	LH	RQE
Series	**Core Housing**	**Function**	**Lever Style**	**Trim Style**	**Finishes †**	**Handing**	**Options†**
45HW– lever **47HW–** lever high security	**45HW:** **0–** keyless or less cylinder, **7–** 7 pin **47HW:** **7–** 7 pin (accepts 5C cores only)	**45HW/47HW:** **DEL–** single key latch, fail safe **DEU–** single key latch, fail secure **WEL–** double key latch, fail safe **WEU–** double key latch, fail secure **TDEL–** single key deadbolt, fail safe **TDEU–** single key deadbolt, fail secure **TWEL–** double key deadbolt, fail safe **TWEU–** double key deadbolt, fail secure **45HW only:** **NXEL–** keyless, latch, fail safe **NXEU–** keyless, latch, fail secure **LEL–** keyless, deadbolt, fail safe **LEU–** keyless, deadbolt, fail secure (pages 8–9)	**Levers:** **3–** solid tube/ return **12–** solid tube/ no return **14–** curved return **15–** contour/ angle return **16–** curved/no return **17–** gullwing no return **Knobs:** **4–** round (page 11)	**45HW:** **H–** 2 3/4″ flat **J–** wrought **M–** forged **N–** forged concealed cylinder **S–** 3 1/2″ flat **R–** 2 3/4″ concave **47HW:** **M–** forged (page 11)	**45HW:** **605 606** **611 612** **613 618** **619 625** **626 690** **47HW:** **626 630**	**RH** **RHRB** **LH** **LHRB**	**AL –** abrasive lever **IDH –** integrated door hardware w/RQE & DS **LL –** lead lined **LS –** latch status **DS –** door status **RQE –** request to exit **SH –** security head screws **TL –** tactile lever **Thick Door –** specify thickness if other than 1 3/4″ (1 3/4″ min. x 4″ max) **Lock Voltage** **Must specify:** 24V or 12V (page 3)

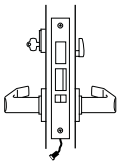
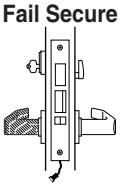
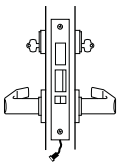
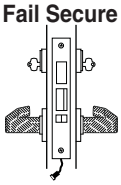
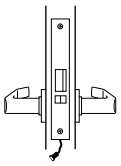
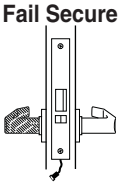
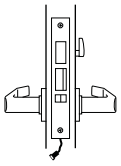
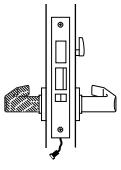
* "N" trim ***not*** available on double keyed functions. **Must specify key mark and number of keys or designate L/C for less core.
†See H Series catalog for details.

40HW ELECTRIFIED – FUNCTIONS

Function	Latch	Outside Knob or Lever		Inside Knob or Lever	
	Operated by	**Locked by**	**Unlocked by**	**Locked by**	**Unlocked by**
DEL–Locked Fail Safe 	• Outside knob/lever when power is removed from the solenoid • Outside key • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Applying power to solenoid; remains locked while power is on	Removing power from solenoid	Cannot be locked	Always unlocked
Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Temperature control module (TCM) included.					
DEU–Unlocked Fail Secure 	• Outside knob/lever when power is applied to the solenoid • Outside key • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Removing power from solenoid	Applying power to solenoid; remains unlocked while power is on	Cannot be locked	Always unlocked
Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Temperature control module (TCM) included.					
WEL–Locked Fail Safe 	• Inside and Outside knob/lever when power is removed from the solenoid • Inside/Outside key **Latchbolt is deadlocked by an auxiliary latch**	Applying power to solenoid; remains locked while power is on	Removing power from solenoid	Applying power to the solenoid; remains locked while power is on	Removing power from the solenoid
Temperature control module (TCM) included.					
Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Applying voltage locks inside & outside knobs/levers simultaneously.					
WEU–Unlocked Fail Secure 	• Inside and Outside knob/lever when power is applied to the solenoid • Inside/Outside key **Latchbolt is deadlocked by an auxiliary latch**	Removing power from solenoid	Applying power to solenoid; remains unlocked while power is on	Removing power from solenoid	Applying power to solenoid; remains unlocked while power is on
Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Removing voltage locks inside & outside knobs/levers simultaneously. Temperature control module (TCM) included.					

STANLEY BEST ACCESS SYSTEMS

40HW ELECTRIFIED — FUNCTIONS (CONTINUED)

Function	Latch	Outside Knob or Lever		Inside Knob or Lever	
	Operated by	Locked by	Unlocked by	Locked by	Unlocked by
TDEL–Locked Fail Safe 	• Outside key • Outside knob/lever when power is removed from the solenoid. **Latchbolt is deadlocked by an auxiliary latch**	Applying power to solenoid; remains locked while power is on **Deadbolt operated by:** • Outside key • Inside thumb turn	Removing power from solenoid **Deadbolt and latchbolt retracted simultaneously by:** • Inside knob/lever • Outside knob/lever when power is removed.	Cannot be locked	Always unlocked
	Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Temperature control module (TCM) included.				
TDEU–Unlocked Fail Secure 	• Outside key • Outside knob/lever when power is applied to the solenoid. **Latchbolt is deadlocked by an auxiliary latch**	Removing power from solenoid **Deadbolt operated by:** • Outside key • Inside thumb turn	Applying power to solenoid; remains unlocked while power is on **Deadbolt and latchbolt retracted simultaneously by:** • Inside knob/lever • Outside knob/lever when power is applied.	Cannot be locked	Always unlocked
	Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Temperature control module (TCM) included.				
TWEL–Locked Fail Safe 	• Outside & inside key • Outside & Inside knob/lever when power is removed from the solenoid. **Latchbolt is deadlocked by an auxiliary latch**	Applying power to solenoid; remains locked while power is on **Deadbolt operated by:** • Outside or inside key • Outside & Inside knob/lever when power is removed from the solenoid	Removing power from solenoid	Applying power to solenoid; remains locked while power is on Temperature control module (TCM) included.	Removing power from solenoid
	Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Applying voltage locks inside & outside knobs/levers simultaneously.				
TWEU–Unlocked Fail Secure 	• Outside & inside key • Outside & Inside knob/lever when power is applied to the solenoid. **Latchbolt is deadlocked by an auxiliary latch**	Removing power from solenoid **Deadbolt operated by:** • Outside or inside key • Outside & Inside knob/lever when power is applied to the solenoid	Applying power to solenoid; remains unlocked while power is on	Removing power from solenoid Temperature control module (TCM) included.	Applying power to solenoid; remains unlocked while power is on
	Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Removing voltage locks inside & outside knobs/levers simultaneously.				
NXEL–Locked Fail Safe 	• Outside knob/lever when power is applied to the solenoid • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Applying power to solenoid; remains locked while power is on	Removing power from solenoid	Cannot be locked	Always unlocked
	Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Temperature control module (TCM) included.				
NXEU–Unlocked Fail Secure 	• Outside knob/lever when power is applied to the solenoid • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Removing power from solenoid	Applying power to solenoid; remains unlocked while power is on	Cannot be locked	Always unlocked
	Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Temperature control module (TCM) included.				
LEL–Locked Fail Safe 	• Outside knob/lever when power is removed from the solenoid • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Applying power to the solenoid; remains locked while power is on **Deadbolt extended by:** Inside thumb turn	Removing power from the solenoid **Deadbolt retracted by:** • Inside thumb turn • Inside knob/lever retracts the deadbolt and latchbolt simultaneously • Outside knob/lever when power is removed	Cannot be locked	Always unlocked
	Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Temperature control module (TCM) included.				
LEU–Unlocked Fail Secure 	• Outside knob/lever when power is applied to the solenoid • Inside knob/lever. **Latchbolt is deadlocked by an auxiliary latch**	Removing power from the solenoid **Deadbolt extended by:** Inside thumb turn	Applying power to the solenoid; remains unlocked while power is on **Deadbolt retracted by:** • Inside thumb turn • Inside knob/lever retracts the deadbolt and latchbolt simultaneously • Outside knob/lever when power is applied	Cannot be locked	Always unlocked
	Powered by 12 or 24 volts AC/DC & 0.60 or 0.45 amps, continuous duty. Temperature control module (TCM) included.				

ATTENTION: Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.

8KW & 9KW ELECTRIFIED LOCKS – SPECIFICATIONS

Types:

- 12 volts AC/DC when used with supplied TCM — 0.50 amps
- 24 volts AC/DC when used with supplied TCM — 0.18 amps
- **All EU functions:** Electrically Unlocked (Fail Secure)
- **All EL functions:** Electrically Locked (Fail Safe)

Approval Listings:

- UL listed for GYQS Electrically-controlled singlepoint locks or latches.
- This product has been approved by the California State Fire Marshal (CSFM) pursuant to section 13144.1 of the California Health and Safety Code.
- Approved by the city of New York Board of Standards and Appeals under calendar number 730-89-SA. See CSFM listing No. 4136-1175:103. It is subject to re-examination, revision and possible cancellation.

93KW Cylindrical Electrically-Operated Lockset

NOTE: 8KW/9KW Electromechanical locksets are intended for use on minimum 1 3/4" thick doors. Consult your local Stanley office when installing 8KW/9KW electromechanical locksets on doors less than 1 3/4" thick.

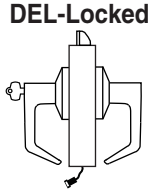
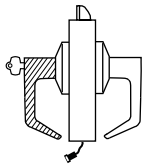
NOTE: All W-series locks require the use of a (TCM) Temperature Control Module. A TCM and TCM connector are supplied standard with every order.

8KW & 9KW ELECTRIFIED LOCKS – HOW TO ORDER

93KW	7	DEU	14	K	STK	626	TL
Series	**Core Housing**	**Function**	**Knob/Lever Style**	**Trim Style**	**Strike Package**	**Finishes***	**Options**
8KW: **83KW**– 2 3/4" **84KW**– 3 3/4" **85KW**– 5" ***9KW:*** **93KW**– 2 3/4" **94KW**– 3 3/4" **95KW**– 5"	**0**– keyless **7**– 7 pin housing accepts all BEST cores	**DEU**– electrically-unlocked **DEL**– electrically-locked (See Below)	***8KW:*** **4**– round **6**– tulip ***9KW:*** **14**– curved return **15**– contour angle return **16**– curved no return (page 11)	**C**– 3" convex **D**– 3 1/2" convex **K**– 3" convex—no ring **L**– 3 1/2" convex—no ring (page 11)	**STK**– 2 3/4" ANSI **S3**– 4 7/8" ANSI	**605 606** **611 612** **613 618** **619 625** **626 690**	***8KW only:*** **BRK**– breakaway knob **KNL**– knurled knob **TAC**– tactile knob ***9KW only:*** **AL**– abrasive lever **LM**– lost motion **RQE**– request-to-exit **TL**– tactile lever **Note:** specify inside (I), outside (O), or both (B) for AL, TL, TAC, KNL options ***8KW & 9KW:*** **LL**– lead lined **SH**– security head screws **3/4**– 3/4" throw latch Lock Voltage **Must specify:** 24V or 12V (page 3)

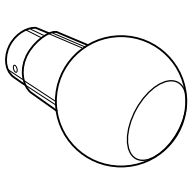
* Handles are made from a zinc alloy, and have been plated to be equivalent in appearance to the finishes listed.

8KW & 9KW ELECTRIFIED LOCKS – FUNCTIONS

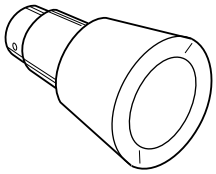
Function	Latch	Outside Knob or Lever		Inside Knob or Lever	
	Operated by	**Locked by**	**Unlocked by**	**Locked by**	**Unlocked by**
DEL-Locked 	• Rotating the inside knob/lever • Rotating the outside knob/lever—only when power is off • Turning the key in the outside knob/lever.	Applying power to the solenoid; remains locked while power is on.	Removing power from the solenoid	Cannot be locked.	Always unlocked.
	Locks are powered by 12 or 24 volts AC/DC at .50amps max. or 0.18 amps. Temperature control module (TCM) included				
DEU-Unlocked 	• Rotating the inside knob/lever, • Rotating the outside knob/lever—only when power is on, • Turning the key in the outside knob/lever.	Removing power from the solenoid	Applying power to the solenoid; remains locked while power is on.	Cannot be locked.	Always unlocked.
	Locks are powered by 12 or 24 volts AC/DC at 500mA max. or 0.18 amps. Temperature control module (TCM) included				

Shading indicates a ridged lever/ knob in a non-energized state.

KNOB STYLES

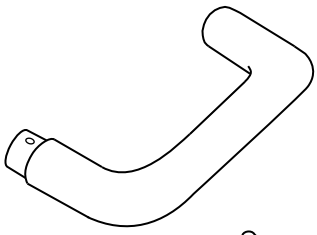


#4 knob

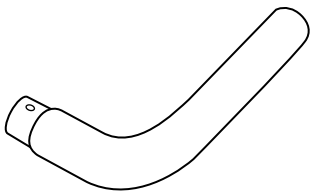


#6 knob

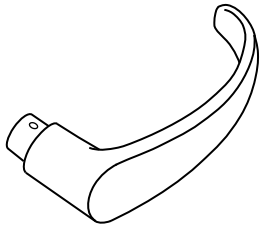
LEVER STYLES



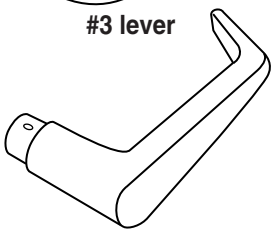
#3 lever



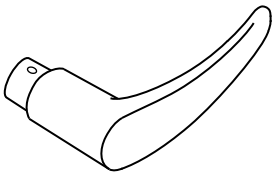
#12 lever



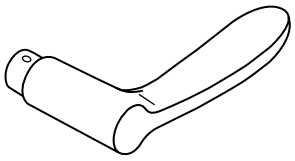
#14 lever



#15 lever

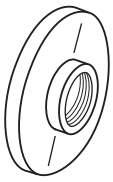


#16 lever

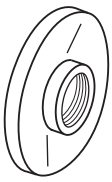


#17 lever

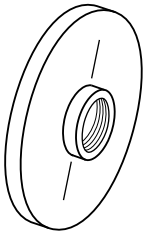
MORTISE ROSE TRIMS



H rose



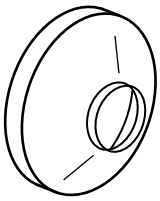
R rose



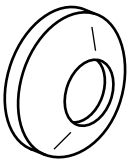
S rose

CYLINDRICAL ROSE TRIMS

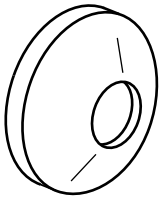
C rose



D rose

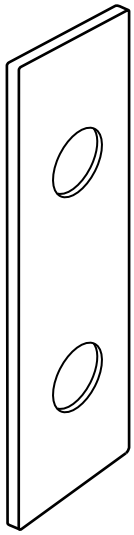


K rose

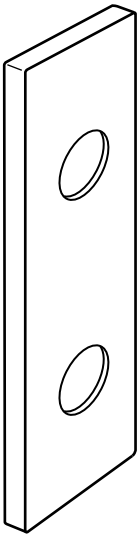


L rose

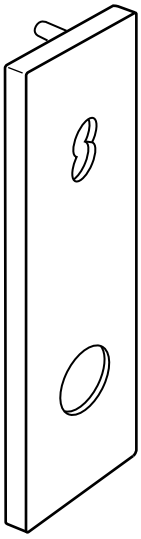
ESCUTCHEON TRIM VARIATIONS



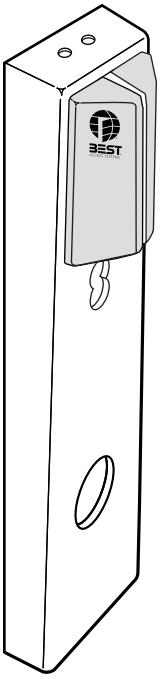
J escutcheon



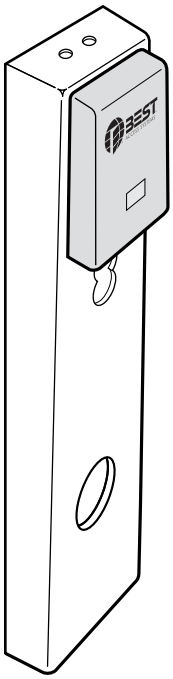
M escutcheon



N escutcheon



MS escutcheon



Prox escutcheon

ELECTRIFIED ACCESSORIES

8W599

Features:

- Offers exceptionally high power for its compact size
- UL listed
- Thermally fused
- Convenient 4 point mounting provision allows rapid installation in a standard 1/2" knockout
- Foot-mounts for surface installation
- Pre-stripped pigtails provided for quick primary connection
- Secondary connection by screw terminals
- Sturdy nylon bobbin construction
- Cadmium plated finish

Transformer

Specifications:

Primary voltage: 120 VAC (Wire Leads)
Secondary voltage: 24 VAC (Screw Terminals)
Secondary VA: 40 volts-amperes
Dimensions: 2 1/4" x 2 1/8" x 2 15/16"
To order specify: 8W599

Function/Application:

Transforms 120 volts AC to 24 volts AC. (To get 24 volts DC, use with 8WCON, AC to DC converter.) Typically used as a power supply for electrically-operated locks.

8WCON

Features:

- 400 Ampere surge capability
- Electrically isolated base
- UL recognized
- Single-phase, full wave bridge

AC to DC Converter
Full wave bridge rectifier

Specifications:

Average forward current: 25 amps
Case: Plastic case with an electrically isolated aluminum base
Polarity: Terminal designation embossed on case: +DC output, -DC output, AC not marked
Mounting position: Bolt down. Gain the highest heat transfer efficiency through the surface opposite the terminals. Use silicone heat sink compound on mounting surface for maximum heat transfer.
Terminals: Suitable for "fast-on" connections. Readily solderable and corrosion resistant. Soldering is recommended for applications greater than15 amperes.
Mounting torque: 20 inch-pounds maximum
Case size: 1.030 x 1.030 inches
Temperature range: -85° to 347°F (-65° to + 175°C)
To order specify: 8WCON

Function/Application:

Converts AC (alternating current) to DC (direct current) for locking circuit applications. (Typically used with 8W599 transformer.)

8WBU-1-A / 8WBU-1-N

Features:

- Positive "snap" feedback
- Industrial-grade switch designed for rugged control applications
- Factory assembled with trimplate
- Standard or narrow plate available
- 1 3/16" dia. mushroom head—red in color

8WBU-1-A
Standard plate

8WBU-1-N
Narrow plate

Specifications:

Electrical rating: 28VDC or 115 VAC, 10A resistive, 5A inductive, 3A lamp load (see terminology on the back cover)
Switch type: SPST-NO-DB, FORM-X contacts, 25,000 cycles at full load, 50,000 cycles mechanical life
Mounting hole: 5/8" (.625) dia.
Switch dim.: 1.187 dia.x 1.528 overall length
Std. wall plate: 2 3/4" x 4 1/2"
Narrow wall plate: 1 1/2" x 4 1/2"
Material/finish: Satin stainless steel
Wire leads: Two 6" long 20 AWG insulated wire leads
To order specify: 8WBU-1-A standard plate 8WBU-1-N narrow plate

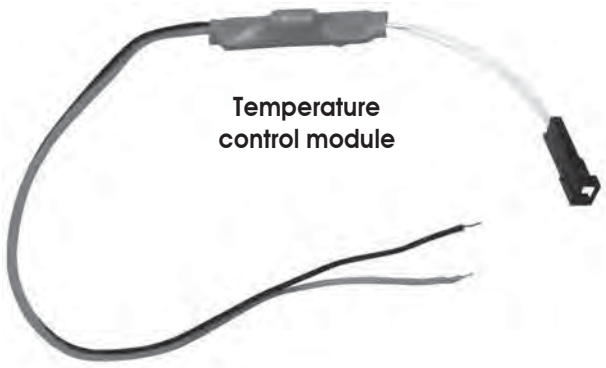
Function/Application:

Normally open push-button switch provides momentary switch closure when pressed. Typically used to momentarily energize electrified locks or strikes or used as a request-to-exit switch on access control systems.

Features
- All circuitry completely sealed

Specifications
Wire leads:
Input– 24 AWG – Stranded wire with PVC insulation (approx. 60″ in length)
Output– 24 AWG – Stranded wire with Teflon insulation (approx. 2.6″ in length)
Input: 12 or 24 volts AC or DC @ at 0.50 or 0.18 amp
Output: Voltage out @ 1 amp maximum for 0.5 seconds then 30% of voltage out for 5 seconds
Output protection: Short circuit current limiting set at one (1) amp.
Operating temp: -4 to 158°F (-20 to 70°C)
Size: 1/2″ x 2″ x 1/2″

To order specify: 8WTCM



Function/Application
A temperature control module (TCM) reduces the amount of current flow to a lockset one second after energizing, thereby lowering the temperature of the lockset trim. A (TCM) also converts AC power to DC power and should be used on all electrified mortise and cylindrical locksets.
Note: The TCM is not used with any IDH-Max function.

TERMINOLOGY

Closed– A state in which a connection exists between the common terminal and another terminal on the switch. See *Open* also.

Common terminal– A terminal on a switch whose contact can be connected to one or more terminals on the switch.

Door status– A switch that monitors whether the door is open or closed. This switch is used to detect a forced entry, or a door that is propped open.

Inductive load– An electrical device such as a motor, relay, or solenoid. **Note**: this type of load can cause arcing across switch contacts and may burn the contacts. See *Resistive load* and *Lamp load* also.

Latchbolt status– A switch that monitors whether the latch is engaged or retracted. This switch is used to detect a forced entry, or a latch that has been taped open.

Lamp load – An electrical device that produces light using a tungsten filament, such as an incandescent light bulb. ***Note***: this type of load can cause surges of current upon contact closure. This may cause the contacts to weld together. See *Inductive load* and *Resistive load* also.

Maintained– Remaining in a given state until the switch lever or button is actuated. Actuating the switch lever or button causes the switch to change to another maintained state.

Momentary– Remaining in a given state only as long as an external force is applied to the switch lever or button.

NC– (Normally Closed) Switch contacts that are closed as long as no external force is applied to the switch lever or button.

NO– (Normally Open) Switch contacts that are open as long as no external force is applied to the switch lever or button.

Open– A state in which no connection exists between the common terminal or any other terminal on the switch.

Pole– The number of independent circuits in a switch. For example, a double-*pole*, single-throw switch can control two separately powered motors. See *Throw* also.

Resistive load– An electrical device, such as a heater, having none of the characteristics of an inductive or lamp load. This type of load is the least severe on the switch because only a small amount of arcing occurs when the switch contacts open and close. See *Inductive load* and *Lamp load* also.

RQE– Request-to-exit. A switch that allows the user to exit without setting off an alarm. Turning the inside knob or lever actuates the switch and, when wired to an alarm system, sends a signal to disable or sound an alarm, start a timer, etc.

Throw– The number of circuits, or contacts controlled by each pole. For example, a single-pole, double-*throw* switch can control a motor with two contacts—a forward contact, and a reverse contact. See *Pole* also.

1300– Integrated BAS1300/LNL1300 reader electronics board or (ISC) Intelligent System Controller is embedded behind the escutcheon secured and out of site. Functions with B.A.S.I.S./Mercury on-line equipment only.

ELECTRIC SWITCH LOCK—INTRODUCTION

Stanley Security Solutions offers a line of electric switch locks available in various "on-off" and "momentary" keyed switch functions. Circuitry variations are available in single, double and triple pole with varied voltage and amperage ratings. Units may be keyed into any BEST system. The BEST interchangeable core offers versatility and adaptability for new and existing electrical controls, panels, machines, etc.

Features

- Double D lock cylinder prevents slipping and turning
- Screw terminals on all switch locks (except the 1W7A1) provides ease of installation
- All switches are UL recognized or listed

Note on functionality: Switch lock keys can only be removed in the 12 o'clock position.

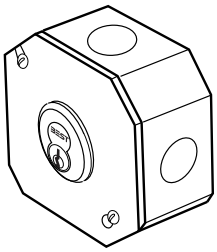
How to select a switch lock

1. **Determine the electrical requirements for the device being controlled:**
   - A. **Voltage** (for example: 115 VAC or 24 VDC)
   - B. **Current or horsepower** (for example: 6 amps or 1/2 horsepower)
   - C. **Type of load**
     - Resistive (for example, heater elements)
     - Inductive (for example, motors, large transformers)
     - Lamp (for example, incandescent lights)
2. **Determine the switch configuration (poles and throws) and key removal condition:**
   - A. **Poles** To determine the number of poles, find how many wires from the power source need to be switched on and off by the switch lock.
   - B. **Throws** To determine the number of throws, find how many wires to the device the switch needs to control. For example, if a switch needs two different "on" conditions (low and high speed), two throws are needed. Or if the device is simply an "on-off" type (only one wire), you need one throw.

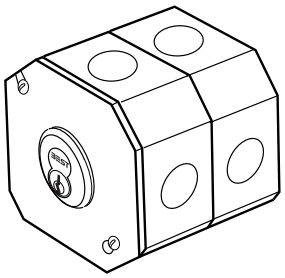
   Note: A switch throw may be left unwired and used as an "off" condition.

   - C. **Key removal** To determine the key removal condition, ask the question, "When the key is removed, should the switch be "off", or could the switch be either "on" or "off" ?" Although the key can only be removed in the 12 o'clock position, the switch itself may be left in two or three positions. Check each switch lock for key removal switch positions.
3. **Use the information collected and find the switch lock that best meets the requirements.** Refer to the following catalog pages for a description of each switch lock. If environmental conditions make it necessary that the switch lock be housed in an electrical box, see the **Optional boxes** (above) for the box that best suits the switch lock and your application.

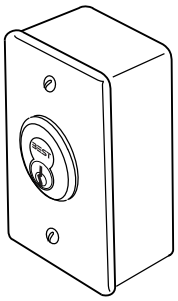
OPTIONAL BOXES



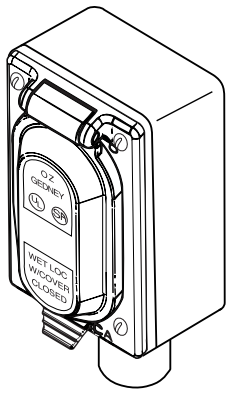
OC1
Standard octagon center mount
3 1/2" x 3 1/2" x 1 5/8"



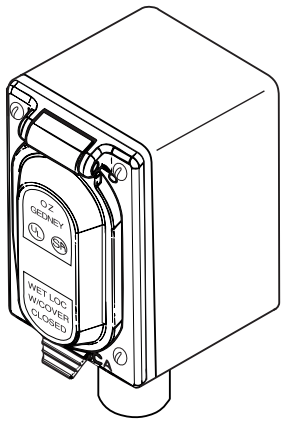
OC2
Deep octagon offset mount
3 1/2" x 3 1/2" x 3 1/4"



INT
Interior box
4" x 2 1/8" x 1 7/8"



SWR
Standard weather resistant box
4 5/8" x 2 7/8" x 2 1/4"



DWR
Deep weather resistant box
4 5/8" x 2 7/8" x 3"

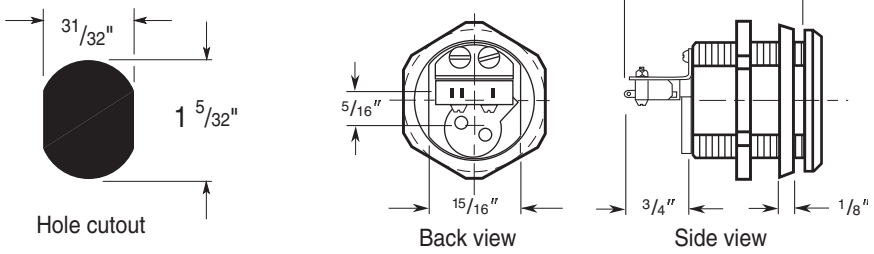
HOW TO ORDER — 1W ELECTRIC SWITCH LOCK

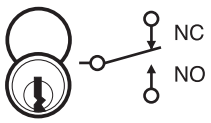
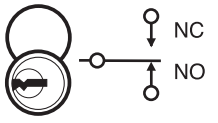
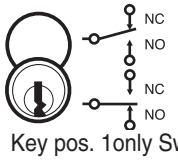
1W	7	B1	626	SWR
Series	Core Housing	Function	Finishes	Box
1W	**7–** 7 pin housing accepts all BEST cores	see pages 15–19	**605 606 611 612 613 619 622 625 626 690**	see above

1W7A1

Contacts .....Silver or gold flash
Contact rating .....28 VDC, 10 amps resistive
28 VDC, 3 amps inductive, lamp
125 VAC, 10.1 amps resistive
250 VAC, 10.1 amps resistive
Horsepower rating .....125 VAC, 1/4 HP
Operating temperature .....-85°F to +257°F (-65° to +125°C)
Switch type .....SPDT (Single pole-double throw)
Switch lock action .....Maintained (on-on)
Number of switches per assembly .....One

1W7A1



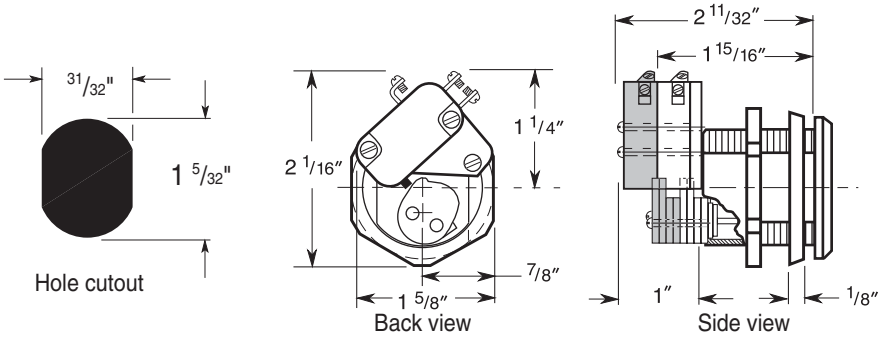
Key & switch positions	Remove key	Optional boxes
 Key pos.1– Swt. pos.1	 Key pos.2– Swt. pos.2	 Key pos. 1only Swt.	DWR INT OC1 OC2

1W7B1 & 1W7J1

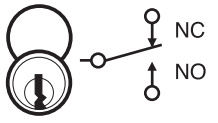
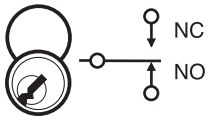
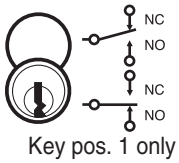
Contact rating .....30 VDC, 15 amps, resistive
125 VDC, 0.6 amps, resistive
250 VDC, 0.3 amps, resistive
125 VAC, 15 amps, resistive
25 VAC, 5 amps, lamp
250 VAC, 15 amps, resistive
Horsepower rating .....125–250 VAC, 1/2 HP
Operating temperature .....up to +176°F (+80°C)
Switch type .....SPDT (Single pole-double throw)
Switch lock action .....Maintained (on-on)
Number of switches per assembly .....1W7B1: One 1W7J1: Two

1W7B1—One switch

1W7J1—Two switches



The shaded area shows the additional 1W7J1 switch and cam length.

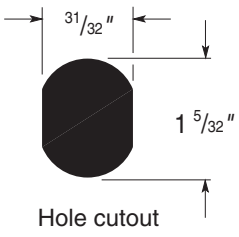
Key & switch positions	Remove key	Optional boxes
 Key pos.1– Swt. pos.1	 Key pos.2– Swt. pos.2	 Key pos. 1 only Swt. pos. 1	OC1 DWR OC2 INT SWR (1W7B1 only)

1W ELECTRIC SWITCH LOCKS

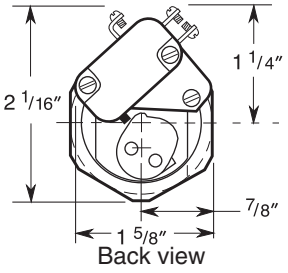
1W7B2 & 1W7J2

Contact rating ..... 30 VDC, 15 amps, resistive
125 VDC, 0.6 amps, resistive
250 VDC, 0.3 amps, resistive
125 VAC, 15 amps, resistive
125 VAC, 5 amps, lamp
250 VAC, 15 amps, resistive
Horsepower rating .....125–250 VAC, 1/2 HP
Operating temperature .....up to +176°F (+80°C)
Switch type .....SPDT (Single pole-double throw)
Switch lock action .....Maintained (on-on)
Number of switches per assembly .....1W7B2: One 1W7J2: Two

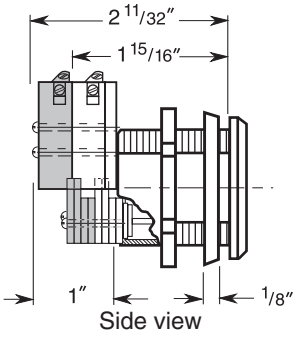
1W7B2—One switch



Hole cutout



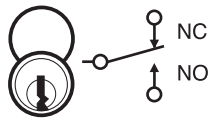
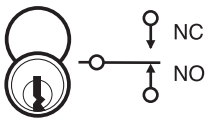
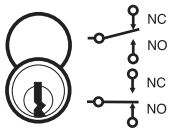
Back view



Side view

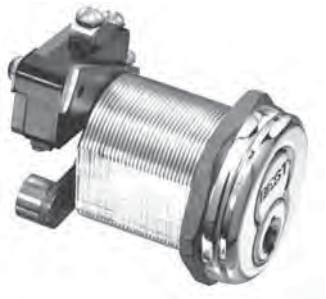
1W7J2—Two switches

The shaded area shows the additional 1W7J2 switch and cam length.

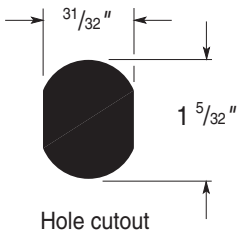
Key & switch positions	Remove key	Optional boxes
 Key pos.1– Swt. pos.1	 Key pos. 2 (360°CCW) Swt. pos. 2	 Key pos. 1 and 2 Swt. pos. 1 and 2	OC1 DWR OC2 INT SWR (1W7B2 only)

1W7B3 & 1W7J3

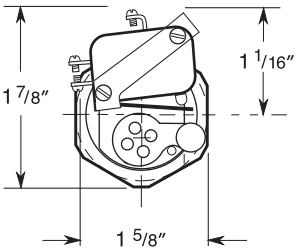
Contact rating ..... 30 VDC, 15 amps, resistive
125 VDC, 0.6 amps, resistive
250 VDC, 0.3 amps, resistive
125 VAC, 15 amps, resistive
125 VAC, 5 amps, lamp
250 VAC, 15 amps, resistive
Horsepower rating .....125–250 VAC, 1/2 HP
Operating temperature .....up to +176°F (+80°C)
Switch type .....SPDT (Single pole-double throw)
Switch lock action .....Momentary (on-on)
Number of switches per assembly .....1W7B3: One 1W7J3: Two



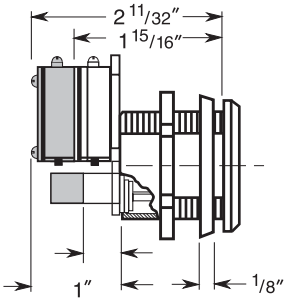
1W7B3—One switch



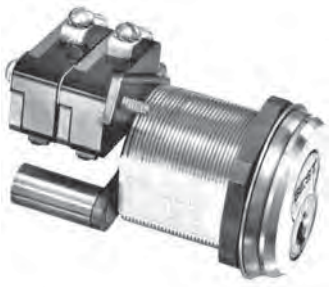
Hole cutout



Back view

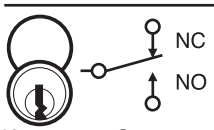
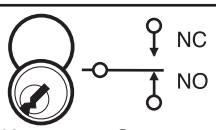
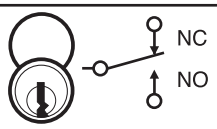


Side view



1W7J3—Two switches

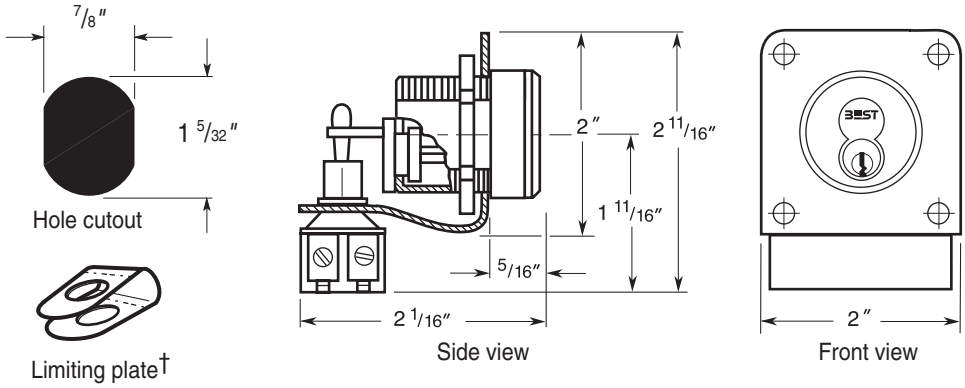
The shaded area shows the additional 1W7J3 switch and cam length.

Key & switch positions	Remove key	Optional boxes
 Key pos.1– Swt. pos.1	 Key pos.2– Swt. pos.2	 Key pos.1– Swt. pos.1	OC1 DWR OC2 INT SWR (1W7B3 only)

1W7D2

Contact rating .....110 VAC or VDC, 16 amps, resistive
220 VAC or VDC, 8 amps, resistive
Horsepower rating .....1 HP @ 125–250 VAC or VDC
Operating temperature .....0°F to +150°F (-18°C to +66°C)
Switch type .....DPST (Double pole-single throw)
Switch lock action .....Maintained (off-on)
Number of switches per assembly .....One

1W7D2



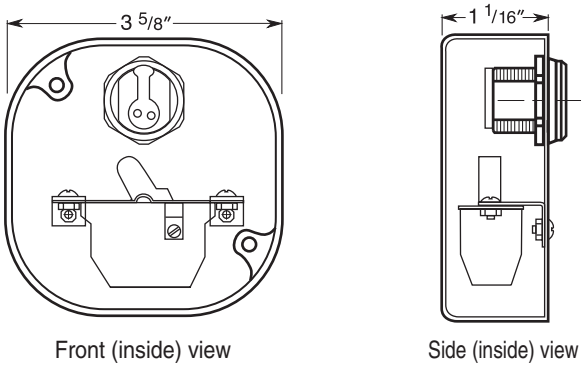
Key & switch positions	Remove key	Optional boxes
Key pos.1– Swt. pos.1		OC2 DWR
Key pos.2– Swt. pos.2		INT SWR
Key pos. 1 only Swt. pos. 1 and 2†		

†Installing the limiting plate limits key removal to switch position 1 ***or*** 2. The key is always removed in the vertical position (key position 1).

1W7C2

Contact rating .....110 VAC or VDC, 10 amps, lamp
220 VAC or VDC, 5 amps, resistive
Operating temperature .....-40°F to +150°F (-40° to +65°C)
Switch type .....SPST (Single pole-single throw)
Switch lock action .....Maintained (off-on)
Number of switches per assembly .....One

1W7C2



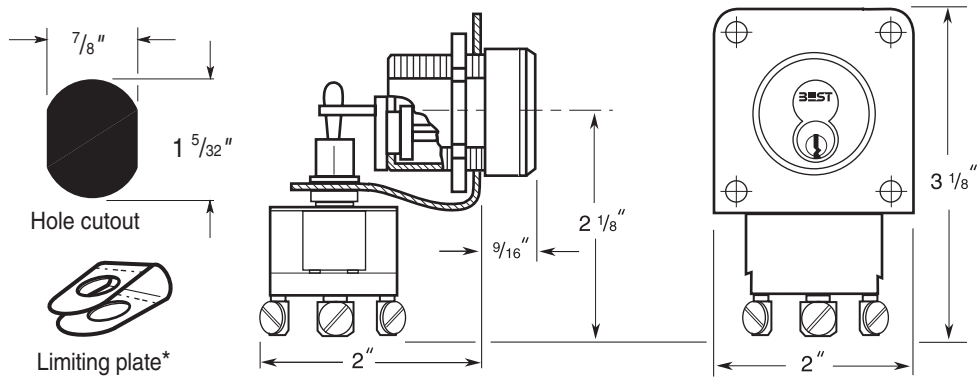
Key & switch positions	Remove key	Optional boxes
Key pos.1– Swt. pos.1		OC1
Key pos.2– Swt. pos.2		OC2
Key pos. 3 only Swt. pos. 1 and 2		

1W ELECTRIC SWITCH LOCKS

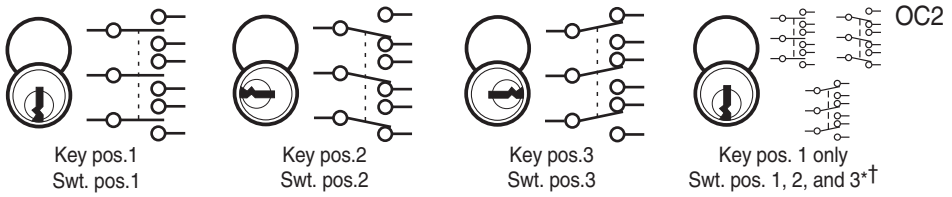
1W7E2

Contact rating ..... 110 VAC, 15 amps, resistive
220 VAC, 10 amps, resistive
Horsepower rating ..... 125–250 VAC or VDC, 3/4 HP; 1, 2, or 3 phase
Operating temperature ..... 0 to +150°F (-18°C to 66°C)
Switch type ..... TPDT (Triple pole-double throw)
Switch lock action ..... Maintained Momentary (on-center off-on)
Number of switches per assembly ..... One

1W7E2



Key & switch positions **Remove key** **Opt. box**

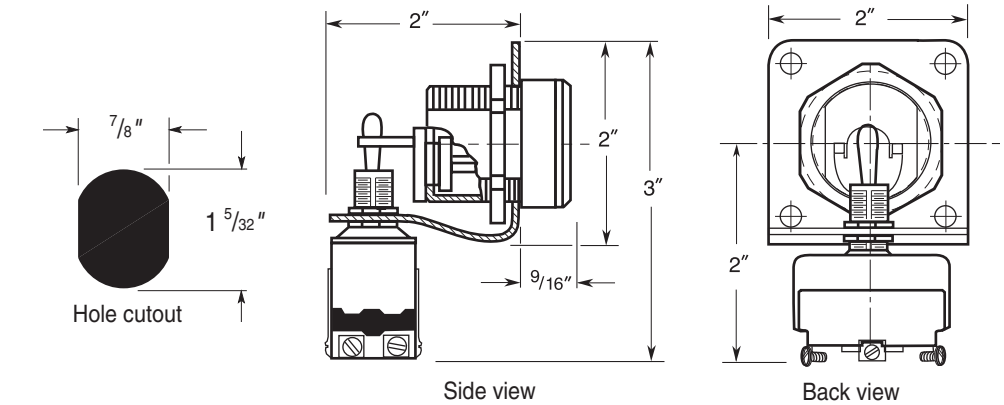


*Installing the limiting plate limits key removal to switch position 2, ***or*** 3. The key is always removed in the vertical position (key position 1). The limiting plate is available for 1W7E2 only.

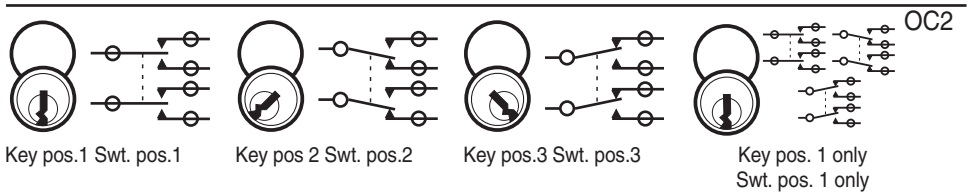
1W7K4

Contact rating ..... 110 VAC, 15 amps, resistive
220 VAC, 10 amps, resistive
Horsepower rating ..... 250 VAC, 1/2 HP
Operating temperature ..... up to +221°F (+105°C)
Switch type ..... DPDT (Double pole-double throw)
Switch lock action ..... Momentary (on-center off-on)
Number of switches per assembly ..... One

1W7K4



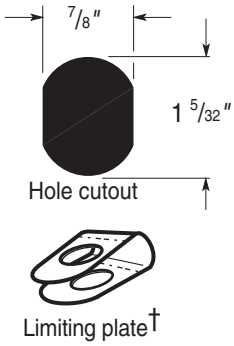
Key & switch positions **Remove key** **Opt. boxes**

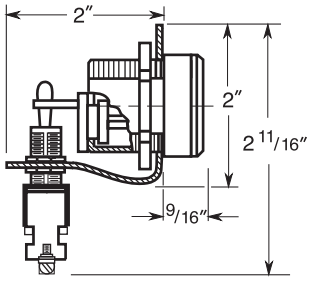


1W ELECTRIC SWITCH LOCKS
1W7L2

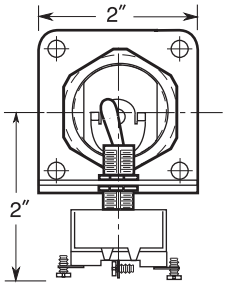
Contact rating .....110 VAC or VDC, 12 amps, resistive
220 VAC or VDC, 6 amps, resistive
Operating temperature .....up to +221°F (+105°C)
Switch type .....SPDT (Single pole-double throw)
Switch lock action .....Maintained (on-on)
Number of switches per assembly .....One

1W7L2





Side view



Front view

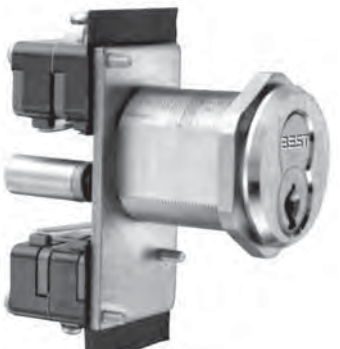
Key & switch positions	Remove key	Optional boxes
Key pos. 1 Swt. pos. 1		DWR
Key pos. 2 Swt. pos. 2		OC2
Key pos. 3 only Swt. pos. 1 and 2†		

†Installing the limiting plate limits key removal to switch position 1 ***or*** 2. The key is always removed in the vertical position (key position 3).

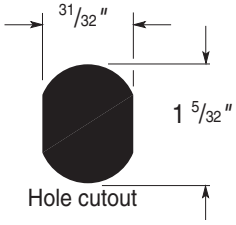
1W7P4 & 1W7R4

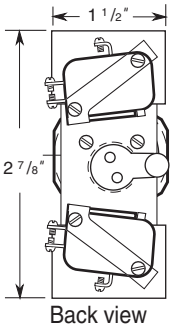
Contact rating .....30 VDC, 15 amps, resistive
125 VDC, 0.6 amps, resistive
250 VDC, 0.3 amps, resistive
125 VAC, 15 amps, resistive
125 VAC, 5 amps, lamp
250 VAC, 15 amps, resistive
Horsepower rating .....125–250 VAC, 1/2 HP
Operating temperature .....up to +176°F (+80°C)
Switch type .....SPDT (Single pole-double throw)
Switch lock action .....Momentary (on-on)
Number of switches per assembly .....1W7P4: Two 1W7R4: Four

1W7P4—two switches

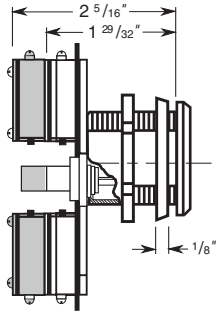


1W7R4—four switches





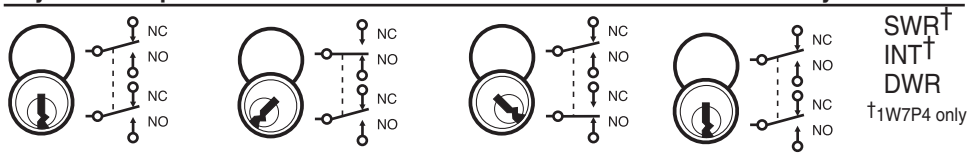
Back view



Side view

The shaded area shows the additional 1W7R4 switches and cam length.

Key & switch positions	Remove key	Boxes
Key pos.1 Swt. pos.1		SWR†
Key pos.2 Swt. pos. 2		INT†
Key pos.3 Swt. pos.3		DWR
Key pos. 1 only Swt. pos. 1 only		†1W7P4 only



For more information on Stanley Security Solutions' products, services, and office locations visit our web site at www.stanleysecuritysolutions.com

Product information contained in this catalog has been compiled and presented with as much care and completeness as is reasonably possible. Errors or mistakes may be present, and in many cases, reliance has been placed on information supplied by other manufacturers which may be in error or which may be subject to changes or modifications by the manufacturer without notice and without obligation. Therefore, no guarantee can be made or should be assumed or implied with regards to product information contained in this catalog.

STANLEY®
Security Solutions

Stanley Security Solutions, Inc.
6161 E. 75th Street Indianapolis, Indiana 46250
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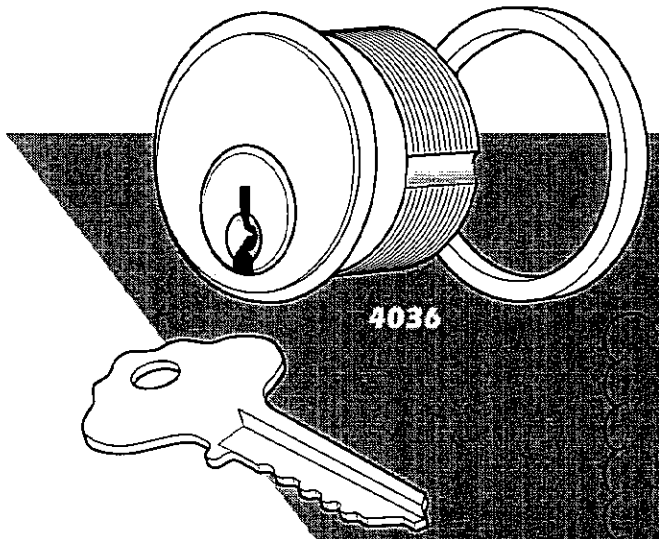
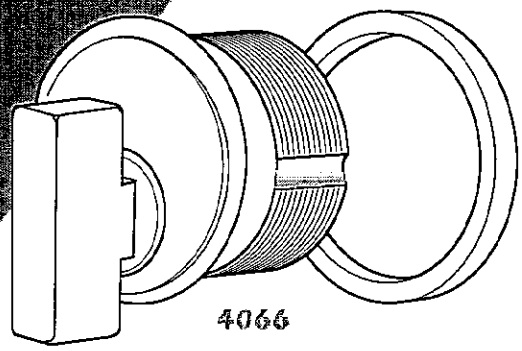
10M 111
BAS019

Mortise Cylinder & Thumbturn

4036 - Cylinder
4066 - Thumbturn

ANSI/BHMA Type E19211 (Grade 1)





Shell, Cylinder
Brass, Aluminum scalp with US28 Clear Anodized (628) or 313 (Dark Bronze Anod.) or 335 (Black Anod.). Plug is US26 Chrome (625).

Keying
Available in keyed-alike pairs (KA2), keyed-different (KD) and keyed-alike sets of 50 (KA50). All cylinders furnished with two keys per cylinder.

Trim Ring
Furnished. 1/4" thick, suitable for 1-3/4" thick doors. Available on special order for other door thicknesses.

Function
A standard 1-5/32" diameter cylinder with 5-pin tumbler security. Designed to operate any Adams Rite lock or latch requiring a mortise cylinder. Close-tolerance manufacture and inspection achieve setscrew grooves and cam that are true on their respective centerlines. This ensures proper mating and operation with the lock or latch mechanism.

Shell, Turn
Brass. Choice of three finishes: 130 to match Clear Anodized, 313 (Dark Bronze Anodized) or 335 (Black

Trim Ring
Furnished. 1/4" thick, suitable for 1-3/4" thick doors. Available on special order for other door thicknesses.

Function
To operate lock or latch without key. Interchanges with standard 1-5/32" diameter mortise cylinder. Cams are available to suit the particular Adams Rite lock or latch. (See back for cam specifications.)

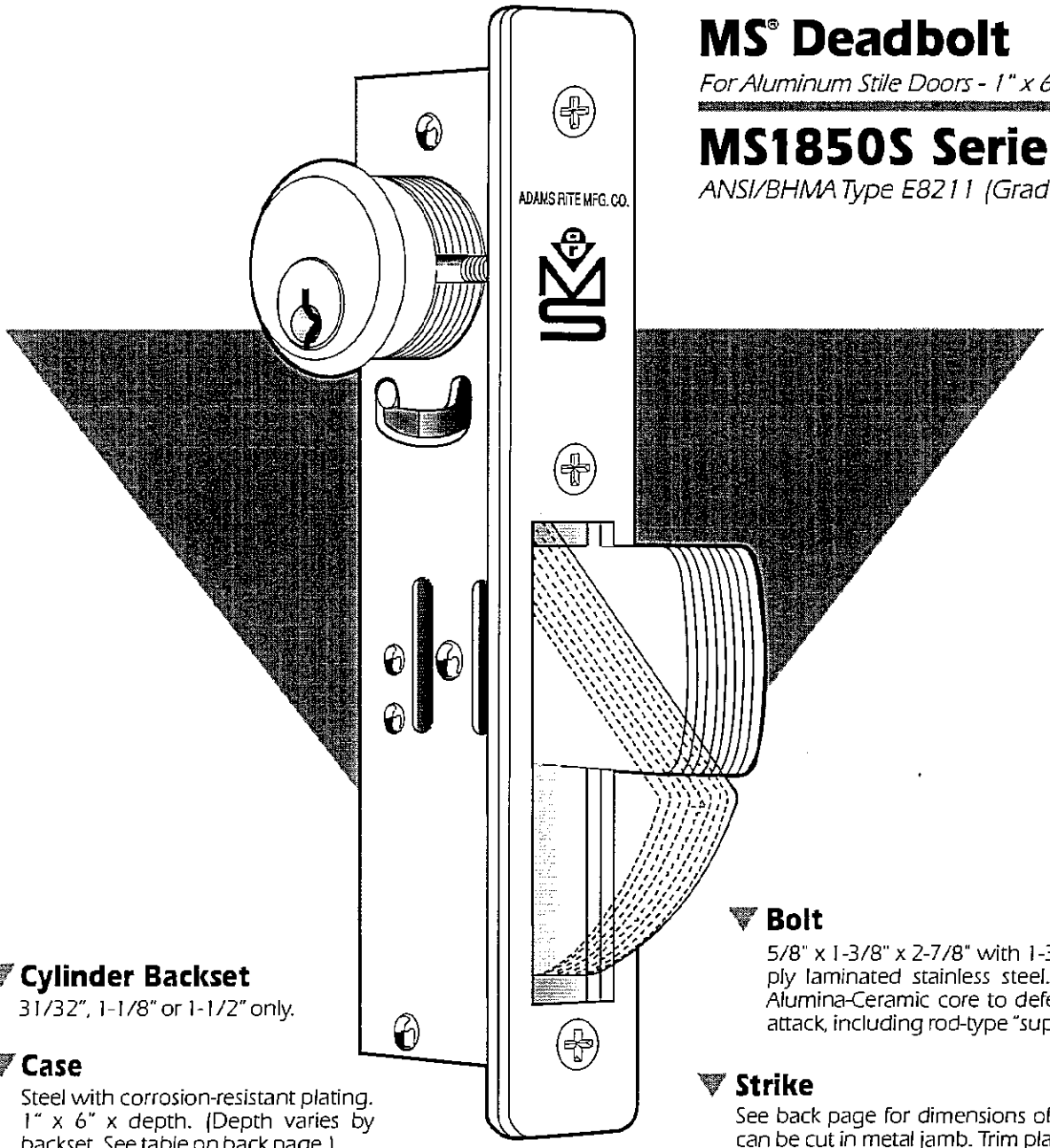
Adams Rite
ASSA ABLOY
260 Santa Fe Street
Pomona, California 91767
(800) 872-3267 Fax:(800) 232-7329
www.adamsrite.com

MS® Deadbolt

For Aluminum Stile Doors - 1" x 6-7/8" Faceplate

MS1850S Series

ANSI/BHMA Type E8211 (Grade 1)



Cylinder Backset

31/32", 1-1/8" or 1-1/2" only.

Case

Steel with corrosion-resistant plating. 1" x 6" x depth. (Depth varies by backset. See table on back page.)

Bolt

5/8" x 1-3/8" x 2-7/8" with 1-3/8" throw. Eight ply laminated stainless steel. Center ply has Alumina-Ceramic core to defeat any hacksaw attack, including rod-type "super" hacksaws.

Strike

See back page for dimensions of strike slot which can be cut in metal jamb. Trim plate, box strike and armored strike are also available. (See page SW-16.)

Function

A huge bolt of laminated stainless steel, nearly three inches long, activated by an uncomplicated pivot mechanism, has made this basic MS® Deadbolt the standard of the narrow stile door industry. The length of this bolt provides maximum security for a single leaf door, even a very tall and flexible one or an installation where the gap between door and jamb is greater than it should be.

Operation

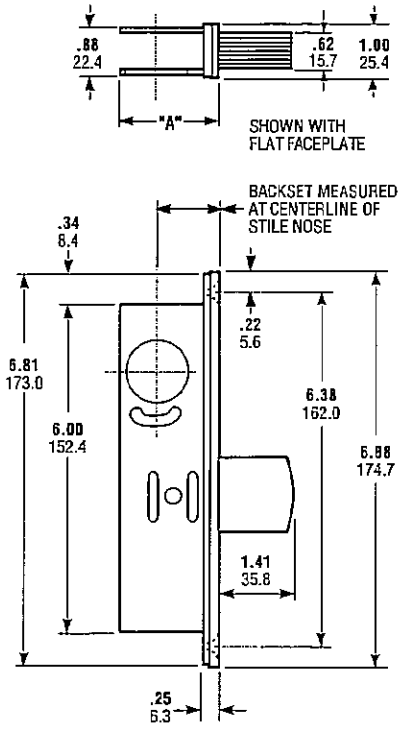
360° turn of key or thumbturn throws or retracts the counterbalanced bolt. Key can be removed only when bolt is in a positively locked or unlocked position. Lock accepts any standard 1-5/32" diameter mortise cylinder or thumbturn from either or both sides. Cylinder must have MS® dimensioned cam. (See page SW-33.)

Adams Rite
ASSA ABLOY
260 Santa Fe Street
Pomona, California 91767
(800) 872-3267 Fax:(800) 232-7329
www.adamsrite.com

MS1850S Deadbolt

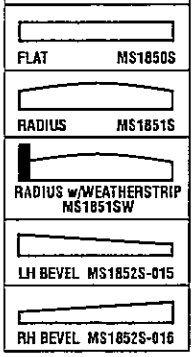
DIMENSIONS

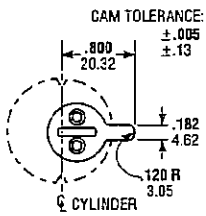
INCHES
MILLIMETERS
Nominal, subject to tolerance extremes.



BACKSET	"A"
31/32" 24.6	**1.63** 41.4
1-1/8" 28.6	**1.78** 45.2
1-1/2" 38.1	**2.25** 57.1

ARMORED FACEPLATE
1" x 6-7/8"

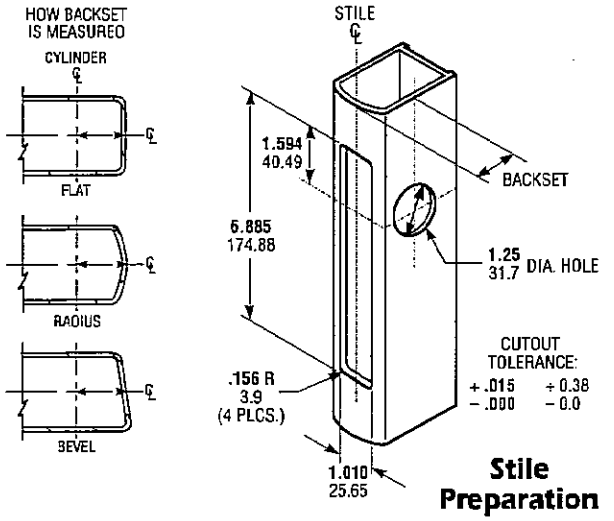




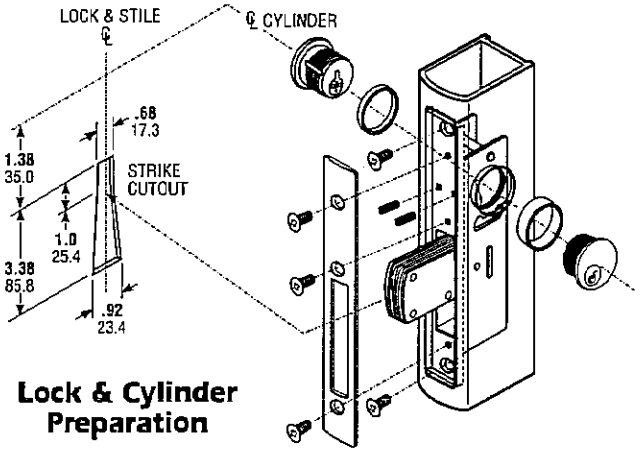
Cylinder Cam

MS1850S Series locks are operable by any standard 1-5/32" diameter mortise cylinder with special MS® cam dimensioned as shown. Cylinders with MS® cams can be readily obtained from most cylinder manufacturers. See page SW-33 for cylinder make and trim ring information.

INSTALLATION



Stile Preparation



Lock & Cylinder Preparation

HOW TO ORDER

Specify quantity and the following information. Order related hardware separately.

Faceplate Shape
- **185OS** Flat
- **1851S** Radius
- **1851SW** Radius w/wstrip
- **185ZS** Bevel

Backset
- **2** 31/32"
- **3** 1-1/8"
- **4** 1-1/2"

Handing
- **15** LH or RHR
- **16** RH or LHR
- **10** Non-Handed*

MS 1850S - 2 15 - 628

Finish
- **628** Clear Anodized
- **313** Dark Bronze Anodized
- **335** Black Anodized

*Any flat or radius face, except Schoolhouse.

OPTIONS

For jambs too narrow to accept the long bolt, the MS1850S-050 offers a shorter bolt with hook shape to provide equal security against door-prying attempts. (See catalog page SL-1.) 1850S-020 short throw without hook also available. Second and third point locking bolts are available for pairs of doors. (See pages SW-10 and SW-11.) All use any make standard mortise cylinder and thus can be keyed into systems with other types of doors. "SCHOOLHOUSE" version, also available, is modified so that operation from inside is "unlock only." This lock is handed and must be specified LH or RH. Specify Series SCH 1850S. Same faceplate and backset options as Series MS1850S. Operation from inside, with standard Adams Rite 4066 Turn seen on page SW-33 or with 4550 Deadbolt Lever (page SW-15). For wood or hollow metal, see MS1850SN.

STANDARD PACKAGE

Individually boxed with machine screws for mounting. Cylinders and/or thumbturn available at extra cost. Shipping weight: 1-1/2 lbs.

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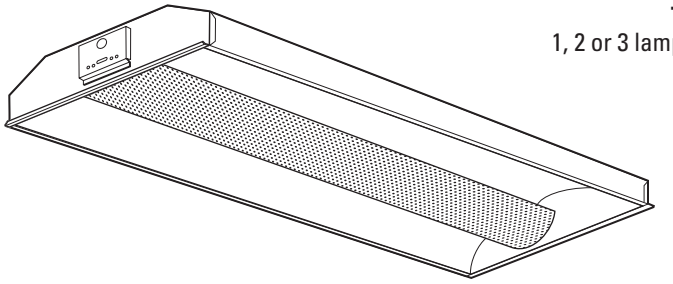
LITHONIA LIGHTING®

Catalog Number	
Notes	Type

Avante®
Direct/Indirect Lighting

2AV 2'x4'

Linear Fluorescent
T8
1, 2 or 3 lamps



FEATURES & SPECIFICATIONS

INTENDED USE — The Avante 2x4 is a general lighting luminaire for large spaces including open offices, circulation areas, classrooms, libraries, cafeterias, airport ticketing and wait areas, and numerous other commercial applications. Static or air functions available. **Certain airborne contaminants can diminish integrity of acrylic.** **Click here for Acrylic Environmental Compatibility table for suitable uses.**

CONSTRUCTION — Housing is gloss white enamel on cold rolled steel. All edges hemmed or rounded.

All shieldings pivot on light traps and swing down for easy lamp access.

Molded light traps prevent light leaks between shielding and endplates.

All air and screw slot units supplied with screw-on tee bar clips. Ballast access is from below.

OPTICS — Twin matte white polyester powder paint finished reflectors provide uniform light distribution. Optional low brightness diffuse aluminum stepped reflectors available.

All diffusers control direct light distribution and glare by shielding lamps from direct view.

Metal diffuser staggered round holes (MDR) 52% open perforated metal with .075" diameter holes backed with white acrylic diffuser.

Straight blade louver (SBL) sides of perforated metal with staggered round holes and solid blade louvered center. Sides and louver backed with white acrylic diffuser.

Metal diffuser aligned mini slots (MDM) 46% open perforated metal backed with white acrylic diffuser.

Acrylic diffuser prismatic lens (ADP) extruded acrylic lens backed with white acrylic diffuser.

Metal diffuser with center slots (MDC). 52% open metal, .075" diameter holes with 1" wide solid center. Slotted with 1/2"x2" open slots. Diffuser is backed with white acrylic overlay.

ELECTRICAL — All ballasts supplied are class P, thermally protected, resetting, HPF, non-PCB, UL Listed, CSA Certified. Ballasts are sound rated A. Standard combinations conform to UL 935.

INSTALLATION — Trims available for standard 1" and 9/16" tee bar or screw slot grids.

Fixtures can be row mounted end-to-end.

Drywall ceiling adapters available.

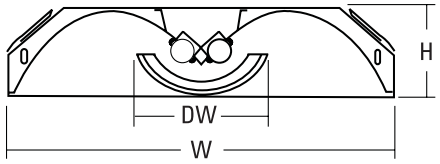
LISTINGS — UL Listed to US and Canadian safety standards. Chicago Plenum approved and NYC approved (see Options).

Avante is covered by one or more of the following patents: 5,988,829; 399,586; 411,641; 413,402; 2,212,513; 87,513.

NOTE: Specifications are subject to change without notice.

Specifications

Length: 48" (1219)
Width: 24" (602)
Diffuser Width: 8" (203)
Depth: 5-1/2" (140)



All dimensions are inches (millimeters).

ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold).**

Example: 2AV G 2 32 MDR MVOLT GEB10IS

2AV

Series
2AV 2' wide

Trim type
G Grid trim
ST Screw slot

Number of lamps
1
2
3
Not included.

Air function
(blank) **Static (no air function)**
A Air return/supply

32

Lamp type
32 32W T8 (48")

Diffuser
MDR Metal diffuser, round holes
SBL Straight blade louver, round holes
MDM Metal diffuser, mini slots
ADP Acrylic diffuser, linear prismatic lens
MDC Metal diffuser, round holes with large center slots[1]
Others available.

Voltage
MVOLT[2]
347
Others available.

Options
GEB10IS Electronic ballast, ≤ 10% THD, instant start
GEB10RS Electronic ballast, ≤ 10% THD, rapid start
S5100 1.0 ballast factor, SIMPLY5™ system[4]
ALG Acrylic litter guard[1]
EL14 Emergency battery pack (nominal 1400 lumens, see Life Safety section)
GLR Internal fast-blow fuse[3]
HW Hardwire for SIMPLY5™ system; replaces RELOC® wiring
PWS1836 6' prewire, 3/8" dia., 18-gauge, 3 wires
NY3 New York City approved
CP Chicago Plenum approved
APB Air pattern control blades[1]
Reflector option
ASR Aluminum stepped reflector

Accessories

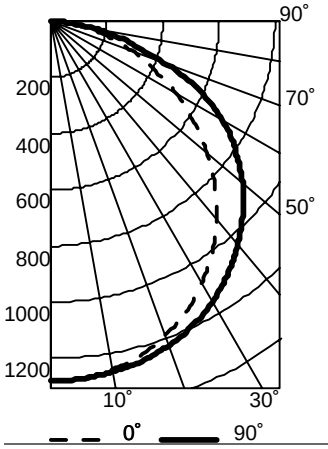
Order as separate catalog number.

DGA24 Drywall ceiling adapter, unit installation. Use G trim plus DGA accessory for fixture trim flange and fixture support in plaster or plasterboard ceilings.

NOTES:
1 Refer to options and accessories section for more detailed information.
2 MVOLT (120 - 277 volt).
3 Must specify voltage, 120 or 277.
4 SIMPLY5 system includes 13' S5SSC RELOC wiring system. Specify voltage unless HW (hardwire) or PWS1836 is ordered.

2AV 2x4 Direct/Indirect Lighting

2AV G 2 32 MDR, (2) 32W T8 lamps, 2850 lumens per lamp, s/m 1.2 (along) 1.3 (across), test no. LTL 10121



Coefficients of Utilization

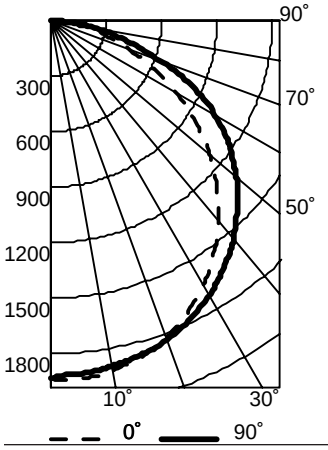
CP Summary			pf	20%								
	0°	90	pc	80%			70%			50%		
			pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
0°	1280	1280	0	81	81	81	79	79	79	76	76	76
5°	1279	1277	1	74	71	68	69	66	64	66	64	62
15°	1233	1253	2	67	61	57	60	56	52	58	54	51
25°	1141	1194	3	61	54	48	53	47	43	50	46	42
35°	1005	1101	RCR 4	56	47	41	46	41	36	45	40	36
45°	828	969	5	51	42	36	41	36	31	40	35	31
55°	623	806	6	47	38	32	37	31	27	36	31	27
65°	406	590	7	44	34	28	34	28	24	33	27	24
75°	211	291	8	41	31	25	31	25	21	30	25	21
85°	46	64	9	38	29	23	28	23	19	27	22	19
90	0	0	10	36	26	21	26	21	17	25	21	17

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1010	17.7	26.0
0° - 40°	1669	29.3	43.0
0° - 60°	3015	52.9	77.7
0° - 90°	3882	68.1	100.0
90° - 180°	0	0.0	0.0
0° - 180°	3882	68.1	100.0

Efficiency: 68.1%

2AV G 3 32 MDR, (3) 32W T8 lamps, 2850 lumens per lamp, s/m 1.3 (along) 1.3 (across), test no. LTL 10155



Coefficients of Utilization

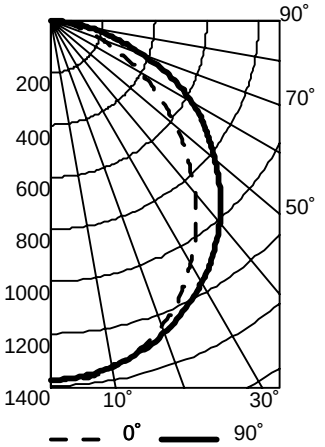
CP Summary			pf	20%								
	0°	90	pc	80%			70%			50%		
			pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
0°	1934	1934	0	81	81	81	79	79	79	76	76	76
5°	1941	1913	1	74	71	68	69	67	64	66	64	62
15°	1880	1871	2	67	62	57	60	56	52	58	54	51
25°	1747	1781	3	61	54	48	53	47	43	51	46	42
35°	1539	1632	RCR 4	56	48	41	47	41	37	45	40	36
45°	1275	1435	5	51	42	36	42	36	31	40	35	31
55°	956	1179	6	47	38	32	37	32	27	36	31	27
65°	611	849	7	44	34	28	34	28	24	33	28	24
75°	298	431	8	41	31	26	31	25	21	30	25	21
85°	66	90	9	38	29	23	28	23	19	28	23	19
90	0	0	10	36	27	21	26	21	17	26	21	17

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1529	17.9	26.2
0° - 40°	2527	29.6	43.3
0° - 60°	4552	53.2	78.0
0° - 90°	5837	68.3	100.0
90° - 180°	0	0.0	0.0
0° - 180°	5837	68.3	100.0

Efficiency: 68.3%

2AV G 3 32 MDR ASR, (3) 32W T8 lamps, 2850 lumens per lamp, s/m 1.2 (along) 1.3 (across), test no. LTL 10120



Coefficients of Utilization

CP Summary			pf	20%								
	0°	90	pc	80%			70%			50%		
			pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
0°	1377	1377	0	50	50	50	49	49	49	47	47	47
5°	1380	1370	1	46	44	42	43	41	40	41	40	39
15°	1309	1317	2	42	39	36	38	35	33	36	34	32
25°	1171	1223	3	38	34	31	33	30	28	32	29	27
35°	974	1090	RCR 4	35	30	26	30	26	24	29	26	23
45°	745	920	5	32	27	23	26	23	20	26	23	20
55°	511	728	6	30	24	21	24	20	18	23	20	18
65°	297	514	7	28	22	18	22	18	16	21	18	16
75°	134	254	8	26	20	17	20	17	14	19	16	14
85°	33	54	9	24	19	15	18	15	13	18	15	13
90	0	0	10	23	17	14	17	14	12	16	14	12

Zonal Lumen Summary

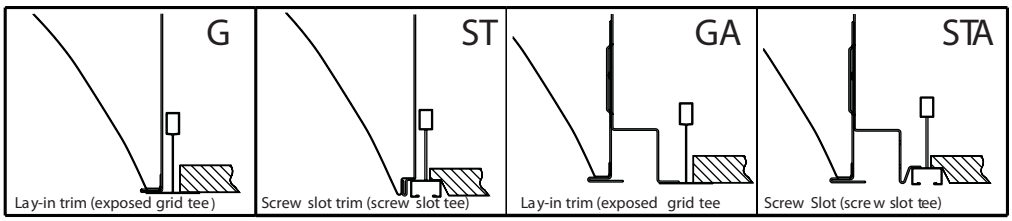
Zone	Lumens	% Lamp	% Fixture
0° - 30°	1051	12.3	29.2
0° - 40°	1697	19.9	47.1
0° - 60°	2907	34.0	80.6
0° - 90°	3606	42.2	100.0
90° - 180°	0	0.0	0.0
0° - 180°	3606	42.2	100.0

Efficiency: 42.2%

For additional photometric information, visit our website at 'lithonia.com'.

MOUNTING DATA

Ceiling Type	Appropriate Trim Type
Exposed grid tee (1' and 9/16")	**G**
Concealed grid tee	**G**
Screw slot	**ST**
Plaster or plasterboard	**G***



*DGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for DGA installation is 24-3/4" x 48-3/4" (Tolerance is +1/8", -0").

LITHONIA LIGHTING®

An AcuityBrands Company

Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012
Phone: 800-858-7763 Fax: 770-929-8789
www.lithonia.com

Sheet #: 2AV 2X4 T8

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Lithonia Lighting Products
Commercial & Industrial Fluorescent
Fluorescent and LED High Bay
Special Applications
Indoor HID
Emergency
Downlighting & Track
Outdoor
Decorative Indoor & Outdoor
Contractor Select
LED Lighting
ABL Wiring and Controls
RELOC Wiring Solutions
Synergy Lighting Controls

Additional ABL Companies

Resources
Specification Sheets
Photometrics
Building Information Models
PSG Catalog
Acrylic/Polycarb Compatibility Table
More Resources

Did you find what you need?

2AV
Avante® Recessed Direct-Indirect

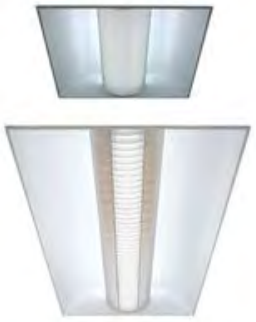
<< Back to Product Overview

Additional Images

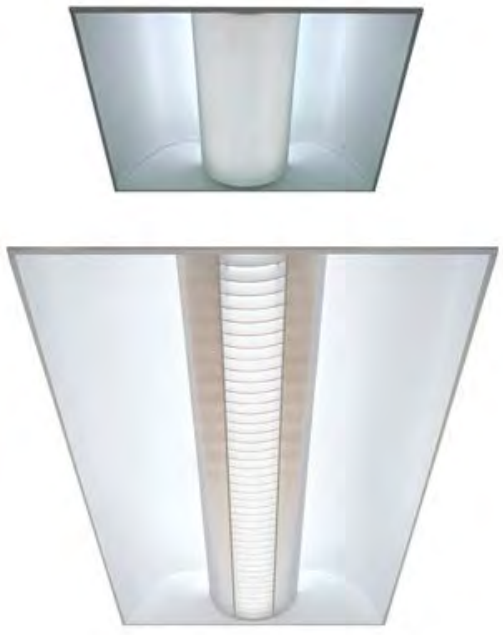
*** Note:**
Photoshop (PSD) and TIF files can't be viewed directly in the browser. The image must be saved to the local workstation and viewed with an image manipulation program like Adobe Photoshop or Adobe Illustrator. To download a JPG or GIF image, right-click the image and choose "Save ..."

Thumbnail JPG Image: 100 pixels X 100 pixels

Medium JPG Image: 200 pixels X 200 pixels



Large JPG Image: 400 pixels X 400 pixels



LITHONIA LIGHTING®

Catalog Number	
Notes	Type

FEATURES & SPECIFICATIONS

INTENDED USE

Ideal for stairwells, vanities and lavatories. **Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.**

CONSTRUCTION

Parts are die-formed from code-gauge steel. Lens is 100% virgin acrylic, #12 pattern. Available in 2', 3' and 4' lengths. Trim, contemporary design. Welded 20-gauge steel construction. Convenience outlet and multilevel switching available.

Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Standard finish is PAF high-gloss, baked white enamel.

ELECTRICAL

Thermally-protected, Class P, HPF, non-PCB, UL listed, CSA certified ballast is standard. Sound rated A. Fixture conforms to UL 1570 and is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

Luminaire Efficacy Rating (LER) and Annual Energy Cost: Two-lamp LER.FW = 54. Annual Energy Cost = $4.44. Based on 32W T8 lamp, 2850 lumens and energy saving electronic ballast. Ballast factor = .88, input watts = 56.

Calculated in accordance with NEMA standard LE-5.

INSTALLATION

Designed for easy installation and maintenance.

LISTING

UL listed and labeled. Listed and labeled to comply with Canadian and Mexican Standards (see Options).

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Specifications subject to change without notice.

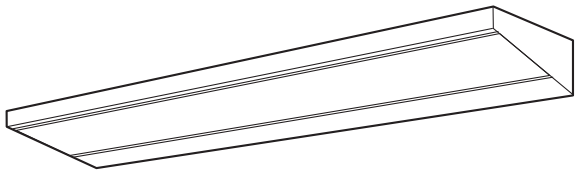
SURFACE COMMERCIAL

WS

STANDARD WALL BRACKET

2', 3' or 4' Lengths

1 or 2 Lamps



ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: WS 2 32 A12 120 GEB10IS

WS

Series

WS Standard wall bracket

Number of lamps

1

2

Not included.

Lamp type

17 17W T8 (24")
25 25W T8 (36")
32 32W T8 (48")
28T5 28W T5 (46")

Diffuser type

A12 #12 pattern acrylic
A12125 #12 pattern acrylic, .125" thick
A19 #19 pattern acrylic, .156" thick

Consult Lithonia Lighting sales representative for other shielding options.

Voltage

120
277
347
MVOLT
Others available.

Options

CO	Grounded convenience outlet, 120V only (lower right)[2]
S1	Pull-chain switch; installed bottom left; *on/off* operation of all lamps only (120V only)[2]
S4	Pull-chain switch; four position — front only, rear only, all on, all off; installed bottom left (120V only)[2]
GEB10IS	Electronic ballasts, ≤ 10% THD, instant start
GEB10PS	Electronic ballasts, ≤ 10% THD, program start
EL	Emergency battery pack (nominal 300 lumens); see Life Safety section
CSA	Listed and labeled to comply with Canadian Standards
NOM	Listed and labeled to comply with Mexican Standards

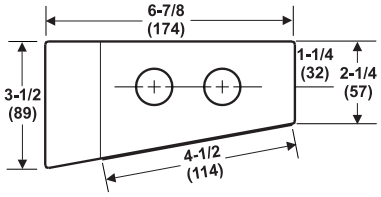
NOTES:

1 T5 lamps require GEB10PS ballasts.

2 For optional locations, consult factory.

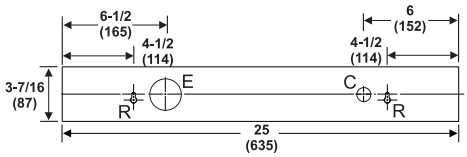
WS Wall Bracket, Standard

MOUNTING DATA

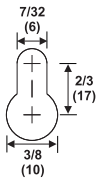


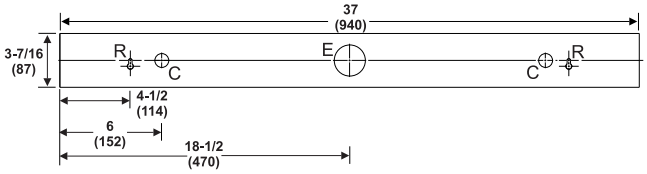
DIMENSIONS

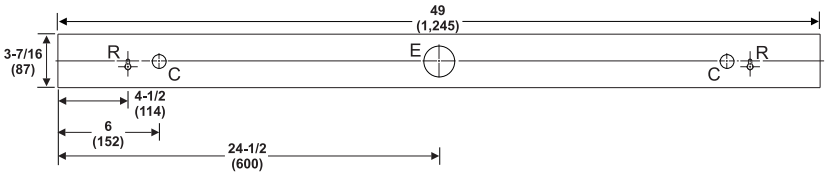
Inches (millimeters). Subject to change without notice.



C = 7/8 (22) Dia. K.O.
E = 2(51) Dia. K.O.
R = Keyhole Slot







PHOTOMETRICS

Full photometric reports available upon request.

LITHONIA LIGHTING®
An AcuityBrands Company

Sheet #: WS

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Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012
Phone: 800-858-7763
www.lithonia.com

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	F3

FEATURES & SPECIFICATIONS

INTENDED USE — For applications that require the clean appearance of a low-profile, brightness-controlled wraparound. Provides broad distribution of light for offices, schools and corridors. Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table, for suitable uses.

Attributes: Curved prismatic diffuser with linear side prisms minimize lamp image and provides high angle brightness control. Luminous end plates soften appearance for improved aesthetics.

CONSTRUCTION — Metal parts are die formed from code-gauge steel. Prismatic diffuser is 100% acrylic with sonically welded luminous ends. Continuous side flanges on fixture body provide light trap and continuous diffuser support to prevent accidental opening and simplify maintenance.

Finish: Five stage iron-phosphate pretreatment assure superior paint adhesion and rust resistance. Painted parts finished with high-gloss, high-reflectivity baked white polyester enamel (low VOC).

ELECTRICAL SYSTEM — Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA Certified ballast is standard. Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

UL/CSA listed ballast disconnect w/strain relief and leads provided standard.

LISTING — UL Listed (standard). Optional: Canada CSA or C-UL. Mexico NOM.

WARRANTY — Guaranteed for one year against mechanical defects in manufacture.

Note: Specifications subject to change without notice.

Low-Profile Wraparound

LB

T5 and T8
WIDE BODY
2', 4' or 8' length
2 or 4 lamps

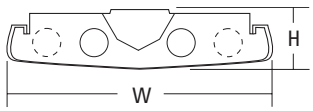
Specifications

T8 Length: 24 (61.0)
48 (122.0)
or 96 (243.9)

T5 Length: 46-1/2 (118.1)
22-1/2 (57.2)

Width: 15-3/8 (39.05)

Depth: 3 (7.62)



All dimensions are inches (centimeters) unless specified otherwise.

ORDERING INFORMATION For shortest lead times, configure products using standard options **(shown in bold.)**

Example: LB 4 32 MVOLT GEB10IS

Series	Number of lamps	Lamp type	Voltage	Options
LB 4 lamps, 15-3/8" wide	2	17 17W T8 (24")	120	**1/4** One, four-lamp ballast
2LB 2 lamps, 15-3/8" wide	**4**	**32** 32W T8 (48")	277	**1/3** One, three-lamp ballast
For tandem double-length unit, add prefix T. Example: TLB	Not included	14 14W T5 (22.5")[1,4]	347	**GEB10IS** Electronic ballast, ≤10% THD, instant start
		28 28W T5 (46.5")[1]	**MVOLT**	GEB10PS Electronic ballast, ≤10% THD, programmed start
		54 54W T5HO (46.5")[2]	Others available	EL Emergency battery pack (nominal 300 lumens, see Life Safety Section)
				GLR Internal fast-blow fuse[3]
				GMF Internal slow-blow fuse[3]
				LSC Lens safety clips (2 per fixture)
				LP_ Lamped; specify lamp type and color
				CSA Listed and labeled to comply with Canadian Standards
				SSR Specular silver interior finish (95% reflective)

Accessories: *Order as separate catalog number.*

SQ	Swivel-stem hanger (specify in 2" increments).
1B	Ceiling spacer (adjusts from 1-1/2" to 2-1/2" from ceiling).

Notes

1 All T5 lamp types use GEB10PS ballast only.
2 T5HO only available in two-lamp configuration.
3 Must specify voltage.
4 Not available in 4 lamp.

LB Low-Profile Wraparound, Wide Body

MOUNTING DATA

For unit or row installation, surface or stem mounting. Stem mounting not available on TLB units.

Individual installation — Two single-stem hangers required.

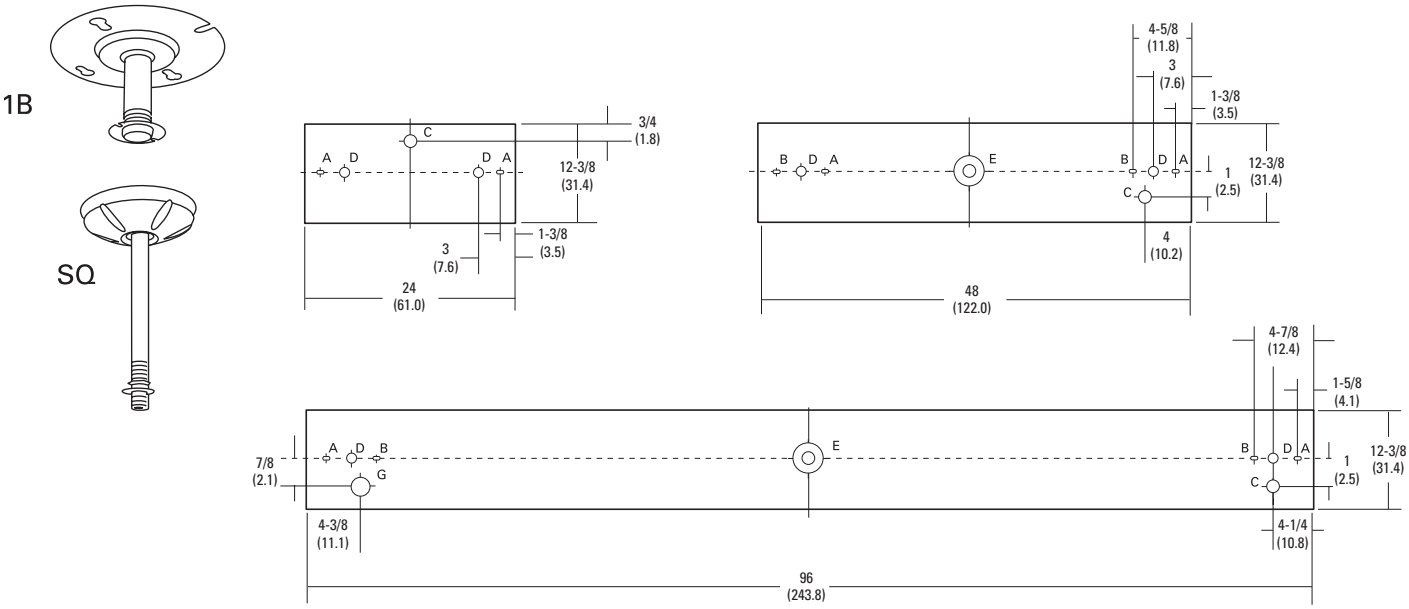
Row installation — One hanger per fixture plus one per row required.

See ACCESSORIES below for hanging devices.

DIMENSIONS

Inches (centimeters). Subject to change without notice.

A = 1/4 x 1/2 (.635 x 1.27) Oval Hole
B = 1/4 x 1/2 (.635 x 1.27) K.O.
C = 7/8 (2.22) Dia.K.O.
D = 11/16 (1.74) Dia. K.O.
E = 2 (5.08) Dia. K.O. and 7/8 (2.22) Dia. K.O.
G = 1-1/8 (2.85) Dia. K.O.



PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. Full photometric data on these and other configurations available upon request.

LB 4 32

Report LTL 5614 - Lumens per lamp = 2900

S/MH (along) 1.2 (across) 1.3

Coefficient of Utilization

Ceiling	80%			70%			50%			0%
Wall 70%	50%	30%	70%	50%	30%	50%	30%	10%	0%	
0	89	89	89	86	86	86	80	80	80	68
1	81	78	75	78	75	73	71	69	67	58
2	75	69	64	72	67	63	63	59	56	50
3	69	62	56	66	60	55	57	52	49	43
4	63	55	49	61	54	48	51	46	42	38
5	58	49	43	56	48	42	45	40	36	33
6	54	44	38	52	43	37	41	36	32	29
7	50	40	34	48	39	33	37	32	28	25
8	46	36	30	44	35	29	33	28	24	22
9	42	32	26	41	31	26	30	25	21	19
10	39	29	23	38	29	23	27	22	19	16

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	2376	20.5	27.0
0-40	3914	33.7	44.1
0-60	6499	56.0	73.7
0-90	7883	68.0	89.4
90-180	932	8.0	10.6
0-180	8815	76.0	100.0

Energy (Calculated in accordance with NEMA standard LE-5)

LER.FW	ANNUAL ENRGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
71	$3.38	(4) 32W T8	2850	.88	108

*Calculated in accordance with NEMA Standards LE-5.

LITHONIA LIGHTING®
An AcuityBrands Company
FLUORESCENT: One Lithonia Way Conyers, GA 30012 Phone: 800-315-4963 Fax: 770-981-8191 www.lithonia.com
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Rev. 05/11/11

LITHONIA LIGHTING®

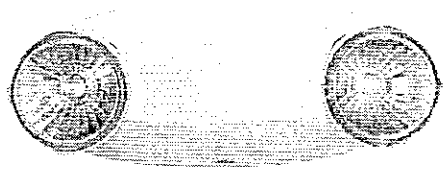
Catalog Number	
Notes	
Type	

QUANTUM®

Thermoplastic Emergency Light

ELM2

LEAD-CALCIUM BATTERY



FEATURES & SPECIFICATIONS

INTENDED USE — Provides a minimum of 90 minutes of illumination for the rated wattage upon loss of AC power. Ideal for applications requiring attractive unit equipment with quick installation.

CONSTRUCTION — White, compact, low-profile contemporary design. Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant and corrosion-proof. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light sources.

Two 5.4W wedge-based krypton lamps offer 32 percent more light output than standard incandescent lamps.

Patented MR24, multi-faceted reflector significantly improves photometric performance – 60 to 100 percent more light delivered to path of egress. **US Patent No. D484,272**

Dual-voltage input capability (120/277V). Edge connectors on printed circuit board ensure long-term durability.

Low-profile, integrated test switch/pilot light. Easily visible bright red status indicator.

Unique track-and-swivel arrangement permits full range of direction of lamp head adjustment. Universal J-box mounting pattern. Tool-less access for maintenance. Flexible conduit entry provision on top of the unit. Ceiling mount standard. **U.S. Patent No. D473,672**

BATTERY: Sealed, maintenance-free lead-calcium battery provides 12W rated capacity. Automatic 48-hour recharge after a 90-minute discharge.

Low-voltage disconnect prevents excessively deep discharge that can permanently damage the battery.

Single-circuit battery connection. Galvanized battery retaining clip.

ELECTRICAL — Current-limiting charger maximizes battery life and minimizes energy consumption. Provides low operating costs.

Short-circuit protection — current-limiting charger circuitry protects printed circuit board from shorts.

Thermal protection senses circuitry temperature and adjusts charge current to prevent overheating and charger failure.

Thermal compensation adjusts charger output to provide optimum charge voltage relative to ambient temperature.

Regulated charge voltage maintains constant-charge voltage over a wide range of line voltages. Prevents over/undercharging that shortens battery life and reduces capacity.

Filtered charger input minimizes charge voltage ripple and extends battery life.

AC/LVD reset allows battery connection before AC power is applied and prevents battery damage from deep discharge.

Brownout protection is automatically switched to emergency mode when supply voltage drops below 80 percent of nominal.

DIAGNOSTICS (SD option): Single multi-chromatic LED indicator to display two-state charging, test activation and three-state diagnostic status.

Test switch provides manual activation of 30- second diagnostic testing for on-demand visual inspection.

Self-diagnostic testing for five minutes every 30 days and 30 minutes every six months.

Diagnostic evaluation of lamp, AC to DC transfer, charging and battery condition.

Brownout protection is a standard feature of self-diagnostics.

Continuously monitors AC functionality.

Automatic test is easily postponed for eight hours by activating manual test switch.

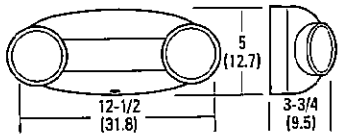
Specifications

Length: 12-1/2 (31.8)

Depth: 3-3/4 (9.5)

Height: 5 (12.7)

Weight: 4.0 lbs (1.8 kg)



All dimensions are inches (centimeters) unless otherwise specified.

LISTINGS — UL Listed and NOM Certified (standard). Meets UL 924, NFPA 101 (current Life Safety Code), NFPA 70-NEC and OSHA illumination standards. Meets Mexican standards.

WARRANTY — Three-year warranty.

Note: Specifications subject to change without notice.

ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold).** **Example:** ELM2

ELM2		
Family	**Options**	
ELM2	B	Black housing[1]
	DL	Damp location listed (10˚C to 40˚C)[1]
	SD	Self-diagnostics

Accessories[2]: Order as separate item.	
ELA VS	Thermoplastic vandal shield[2]
ELA WG1	Wireguard, 15"W x 13-1/2"H x 6"D[3]

Notes

1 Black unit not available with damp location option.

2 See specsheet ELA-RTLP-MS-VS2.

3 See specsheet ELA-WG.

ELM2 Quantum® Thermoplastic Emergency Light

SPECIFICATIONS

ELECTRICAL

Primary Circuit

Type	Input Volts	Input Amps	Input Watts	Output volts	Watts output[1] 1-1/2 hrs.	Watts output[1] 2hrs.
ELM2	120	.11	1.2	6	12	9
	277	.12	1.5			

BATTERY

Sealed Lead Calcium

Voltage	Shelf life[2]	Expected life[2]	Maintenance[3]	Optimum temperature[4]
6	12 months	5 - 7 years	none	60°– 90°F (16°– 32°C)

1 Half-hour and one-hour run time not applicable for U.S. product.

2 At 77°F (25°C).

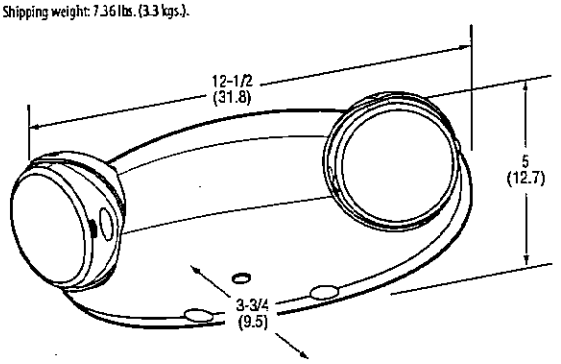
3 All life safety equipment, including emergency lighting for path of egress, must be maintained, serviced and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service or testing could jeopardize the safety of occupants and will void all warranties.

4 Optimum ambient temperature range where unit will provide capacity for 30 to 90 minutes. Higher and lower temperatures affect life and capacity. Consult factory for detailed information.

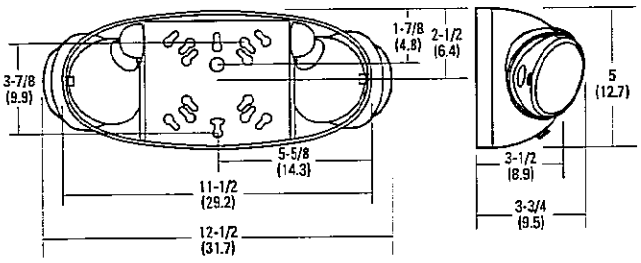
MOUNTING

All dimensions are inches (centimeters).

Shipping weight: 7.36 lbs. (3.3 kgs.).

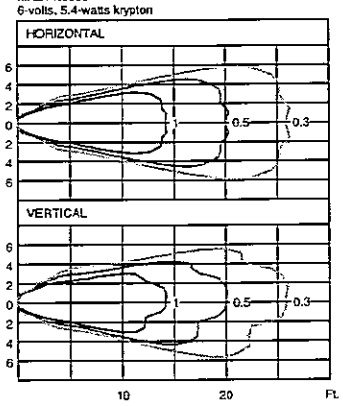


Mounting Plate

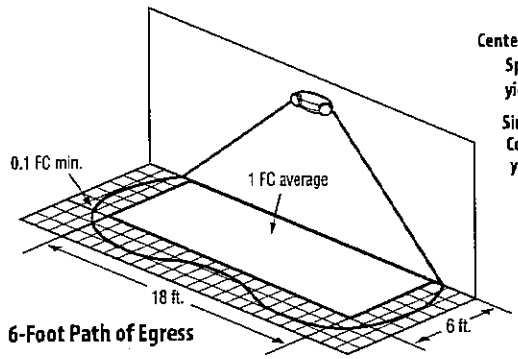


LAMP PHOTOMETRICS

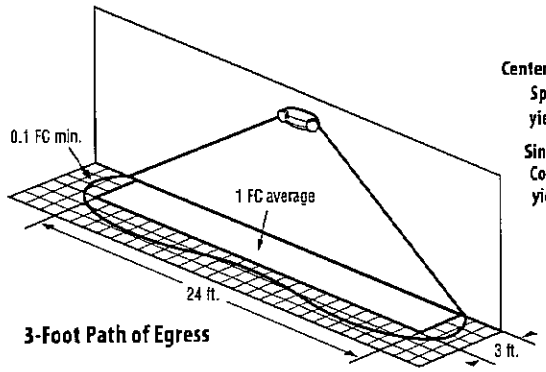
LTL10586
MR24 K0606
6-volts, 5.4-watts krypton



FIXTURE PERFORMANCE



6-Foot Path of Egress



3-Foot Path of Egress

SPACING/COVERAGE GUIDE

MR24 K0606 Lamp	Path of Egress 3'-wide	Path of Egress 6'-wide
Center-to-Center Spacing	25'	20'
Single-Unit Coverage	24'	18'

* Meets Life Safety Code standard minimum illuminance of 0.1 FC and average illuminance of 1.0 FC. Assumes open space with no obstructions, mounting height: 7.5', ceiling height: 9', and reflectances: 80/50/20. Analysis based on independently tested photometrics.

LITHONIA LIGHTING®
An AcuityBrands Company

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LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

QUANTUM®

Thermoplastic Exit/Unit Combo

LHQM

LED LAMPS

FEATURES & SPECIFICATIONS

INTENDED USE — Suitable for applications requiring both exit sign and unit equipment. Attractive, less than 10 inches tall, streamlined design is great for above-the-door applications and other tight fits. High-output version with remote lamps are ideal for outdoor emergency egress lighting.

CONSTRUCTION — Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant and corrosion-proof. UL94V-0 flame rating. UV-stable white resin resists discoloration from natural and man-made light sources.

Rugged unibody housing snaps together with no additional fasteners. Faceplate and back cover are interchangeable on housing. Positive snap-fit tabs hold faceplate securely, yet are easily removable for lamp compartment access. Universal, directional chevron inserts are easily removed and reinserted.

Two 5.4W T-5 wedge-base krypton lamps with multi-faceted reflector and acrylic lenses provide superior optical control. Unique swivel-and-point arrangement permits full-range adjustment in lamp head direction.

Uniform graphics illumination without shadows or hot spots. Letters 6" high with 3/4" stroke., with 100 ft. viewing distance rating.

Special wording available with Panel Face in red lettering only. See notes.

U.S. Patent No. D484,272; 5,526,251; 5,611,163; 5,797,673; 5,954,423; 6,142,648 and 6,848,798. Canada Patent No. 80,141, 2,180,495.

OPTICS — Expected LED life of up to 10 years, based on continuous operation. Low energy consumption — **only 3.3 watts.**

ELECTRICAL — Custom microchip charger, developed by Lithonia Lighting Emergency Systems, provides increased reliability and maximizes battery life. AC/LVD reset allows battery connection before AC power is applied and prevents battery damage from deep discharge.

Battery: Sealed, maintenance free lead-calcium battery standard delivers 90 minutes capacity to emergency lamps. Nickel-cadmium battery is optional.

Two-rate regulated charger minimizes energy consumption and provides low operating costs. Filtered charger output minimizes charge voltage ripple and extends battery life. Thermal protection senses circuitry temperature and maintenance. Optional high-output battery (HO) to power up to 6-volt, 12-watt remote load. See chart on back for details.

INSTALLATION — Top, end or back mounting. Housing snaps to canopy with four positive-locking tabs. Cam locking pin secures housing to canopy.

Easily removed mounting knockouts. Conduit entry knockout for 1/2" flexible conduit. J-box pattern on back panel.

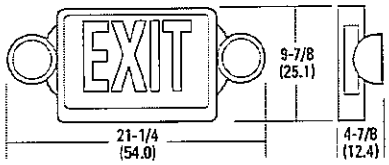
LISTING — UL listed. Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards. Damp location (10°-40°C) standard.

WARRANTY — Three-year warranty (five-year for nickel-cadmium battery) including LED lamps.

Note: Specifications subject to change without notice.

Specifications

Length: 21-1/4 (54.0)
Depth: 4-7/8 (12.4)
Height: 9-7/8 (25.1)
Weight: 7.36 (3.3 kg)



All dimensions are inches (centimeters) unless otherwise specified.

ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold).**

Example: LHQM S W 3 R

LHQM			3		
Family	**Face type**	**Housing color**	**Number of faces**	**Letter color**	**Options**
LHQM LED type two external lamp heads	S Stencil P Panel[1]	(blank) Black W White	3 Single face with extra faceplate and color panel	R Red G Green	(blank) None N Maintenance-free nickel-cadmium battery[2] HO High-output lead-calcium battery[3] HO RO High-output lead-calcium battery, less lamp heads[3]

Accessories: Order as separate item	
ELA MR24 K0606	Compact MR24 remote head (6W, 6V)[5,7]
ELA T MR24 K0606	Compact MR24 twin remote head (12W total)[5,7]
ELA MR24 K0906	Compact MR24 remote head (9W, 6V)[5,7]
ELA NX HO606	NEMA 4X, sealed-beam remote fixture (6V, 6W halogen)[5,8]
ELA WG3	Wireguard (back mount only)[4]
ELA W US12	12" pendant-mount kit with white canopy[9]

Notes

1 Only available in custom signage. See spec sheet, Custom-Signage.
2 Not available with any other options.
3 Not available with nickel-cadmium battery option.
4 See spec sheet ELA-WG.
5 Only available with HO option.
6 Only available with HO RO option.
7 See spec sheet ELA-MR24.
8 See spec sheet ELA-IND-NX.
9 See spec sheet ELA-Stemkits. To order black canopy, replace "W" with "B". To order 24" or 36" length, replace "12" with "24" or "36".

LHQM Quantum® Thermoplastic Exit/Unit Combo

SPECIFICATIONS

ELECTRICAL

Primary Circuit

	Rated LED life[1]	Supply voltage	Max. amps	Max. watts
Red & Green LED	10 years	120	.23	3.3
		277	.23	3.3

BATTERY

	Voltage	Shelf life[2]	Expected life[2]	Maintenance[3]	Optimum temperature[4]
Lead -calcium	6	12 months	5 - 7 years	none	60° – 90°F
Ni-cad (N)	6	3 years	7 -9 years	none	32° – 100°F

Notes:

1 Based on continuous operation.

2 At 77°F (25°C).

3 All life safety equipment, including emergency lighting for path of egress must be maintained, serviced, and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.

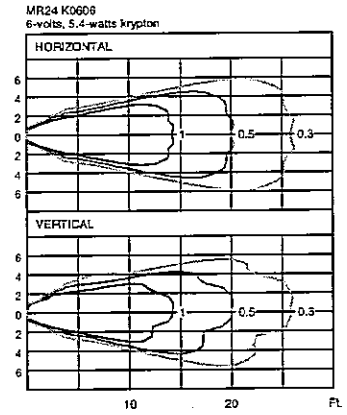
4 Optimum ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity. Consult factory for detailed information.

REMOTE OUTPUT CAPACITY

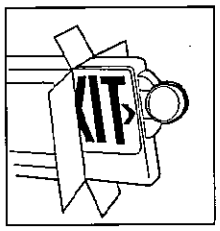
BATTERY

Standard combo	Combo ni-cad battery	Combo high-output battery (HO)	Combo\no heads (R0) & high-output
NA	NA	12W	24W

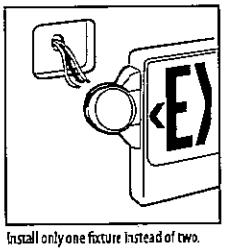
PHOTOMETRICS



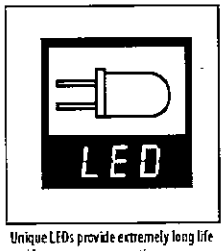
KEY FEATURES



Fully assembled at factory.



Install only one fixture instead of two.



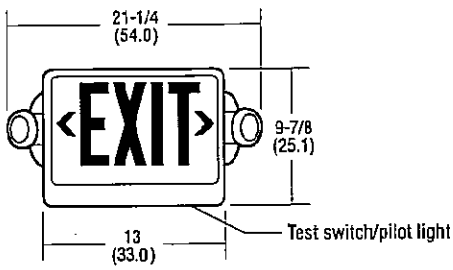
Unique LEDs provide extremely long life and low energy consumption.

MOUNTING

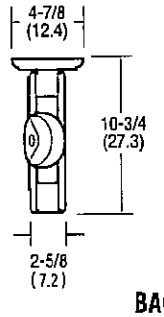
All dimensions are inches (centimeters).

Shipping weight: 7.36 lbs. (3.3 kgs.).

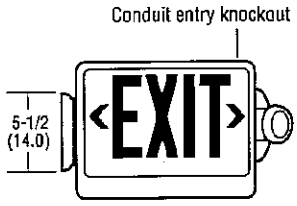
BACK



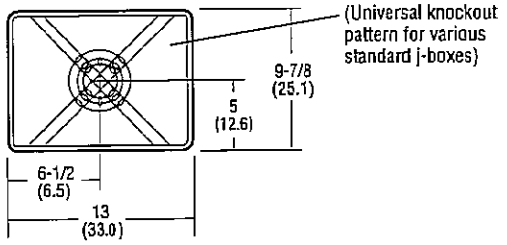
TOP



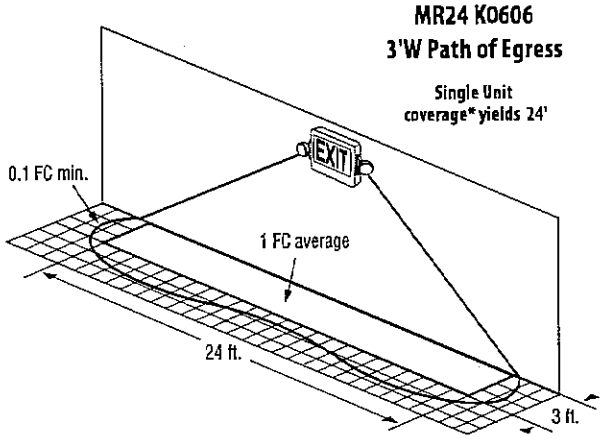
END



BACKPLATE



FIXTURE PERFORMANCE



* Meets Life Safety Code standard minimum illuminance of 0.1 FC and average illuminance of 1.0 FC. Assumes open space with no obstructions, mounting height: 7.5', ceiling height: 9', and reflectances: 80/50/20. Analysis based on independently tested photometrics.

LITHONIA LIGHTING®
An AcuityBrands Company

LHQM

EMERGENCY: One Lithonia Way Conyers GA 30012 Phone: 800.338.3694 Fax: 770.981.6141 www.lithonia.com ©1995-2011 Acuity Brands Lighting, Inc All rights reserved. Rev. 12/14/11

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

QUANTUM®

Thermoplastic Exits

LQM EL N

LED LAMPS
Emergency Operation
Nickel-Cadmium Battery

FEATURES & SPECIFICATIONS

INTENDED USE — Ideal for applications requiring attractive, quick-installation exit signs and low energy consumption.

CONSTRUCTION — Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant, and corrosion-proof. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light sources.

Rugged unibody housing snaps together with no additional mechanical fasteners. Faceplate and back cover are interchangeable on housing. Positive snap-fit tabs hold faceplate securely, yet easily removable for lamp compartment access.

Universal directional Chevron inserts are easily removed and reinserted. Uniform illumination without shadows or hot spots. Reinforced, impact-resistant color panels. Letters 6" high with 3/4" stroke, with 100 ft. viewing distance rating.

U.S. Patent No. 5,526,251; 5,611,163; 5,739,639; 5,954,423; D495,751 and 6,502,044. Other patents pending.

OPTICS — LEDs mounted on printed circuit boards. Expected LED life of up to 10 years. Low energy consumption – less than one watt. LED lamp operates in normal (AC input) and emergency (DC input) modes.

ELECTRICAL — Low-voltage disconnect prevents excessively deep discharge that can permanently damage battery. Conveniently located test switch and LED provide visual and manual means of monitoring system.

Constant-current series charger minimizes energy consumption and provides low operating costs. Printed circuit boards are 100% quality tested during manufacturing. Current-limiting charger circuitry protects printed circuit boards from shorts.

AC/LV reset (line latch) allows battery connection before AC power is applied and aids in preventing battery damage from deep discharge.

Crystal oscillator timing system with watchdog protection for precision accuracy.

Brownout protection is automatically switched to emergency mode when supply voltage drops below 80% of nominal.

Battery: Sealed, maintenance-free nickel-cadmium battery delivers 90-minutes capacity to emergency lamps. Two-state constant-current charge maximizes battery life and automatically recharges after battery discharge.

Diagnostics: Single-point microcomputer control for all electronic features.

Single multi-chromatic LED indicator to display two-state charging, test activation and three-state diagnostic status.

Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection. Self-diagnostic testing for five minutes every 30 days and 30 minutes every six months.

Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition. Continuously monitors AC functionality.

INSTALLATION — Universal (top-, end-, or back-) mounting. Easily removed mounting knockouts. J-box pattern on back panel. Housing snaps to canopy with four positive-locking tabs. Cam-locking pin tightly secures housing to canopy.

LISTINGS — UL damp location listed (10°-40°C) standard. Meets UL924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards.

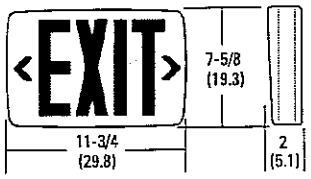
WARRANTY — Five-year warranty, including the LED lamps.

Note: Specifications subject to change without notice.

Specifications

Length: 11-3/4 (29.8)
Depth: 2 (5.1)
Height: 7-5/8 (19.3)
Weight: 2.6 (1.2 kg)

All dimensions are inches (centimeters) unless otherwise specified.



ORDERING INFORMATION For shortest lead times, configure product using **standard options (shown in bold).** **Example:** LQM S W 3 R 120/277 EL N

LQM			3		120/277	EL N	
Family	**Face type**	**Housing color**	**Number of faces**	**Letter color**	**Input voltage[2]**	**Emergency operation**	**Options**
LQM	S Stencil P Panel[1]	**(blank)** Black W White	3 Single face with extra faceplate and color panel	R Red G Green	**120/277** Dual voltage	EL N Nickel cadmium battery	**(blank)** None NOM NOM certified for Mexico[3] SD Self-diagnostics SDFIFA Self-diagnostics, fire alarm flashing interface and flashing emergency operation and intermittent audible alarm (one flash/one second)

Accessories: Order as separate item.

ELA WG1	Back-mount wireguard[4]
ELA WGEXT	Top-mount wireguard[4]
ELA WGEXE	End-mount wireguard[4]
ELA LQMUS12	12" stem kit[5]

Notes

1 Only available in custom signage. See spec sheet, Custom-Signage.
2 Some special voltages available. Consult factory.
3 Available with stencil or panel faces in white housing, red letters only.
4 See spec sheet ELA-WG.
5 See spec sheet ELA-Stemkits.

SPECIFICATIONS

ELECTRICAL

Primary Circuit

Type[1]	Rated LED life[2]	Supply voltage	Input watts	Max. amps
Red LED	10 years	120	.71	.05
		277	.92	.06
Green LED	10 years	120	.66	.05
		277	.70	.06

BATTERY

Nickel Cadmium

Voltage	Shelf life[3]	Expected life[3]	Maintenance[4]	Optimum temperature[5]
1.2	3 years	7-9 years	none	10°C – 40°C

Notes

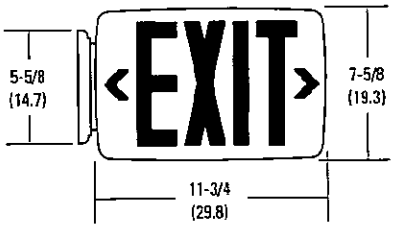
1. LED lamps operate in normal (AC input) and emergency (DC input) modes.
2. Based on continuous operation.
3. At 77°F (25°C).
4. All life safety equipment, including emergency lighting for path of egress must be maintained, serviced and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.
5. Optimum ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity. Consult factory for detailed information.

MOUNTING

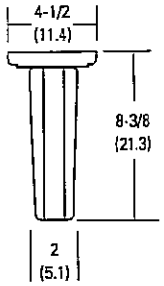
All dimensions are inches (centimeters) unless otherwise specified.

Shipping weight: 2.6 lbs. (1.2 kgs.)

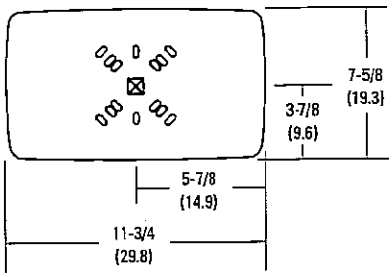
End Mounting



Top Mounting



Back Mounting



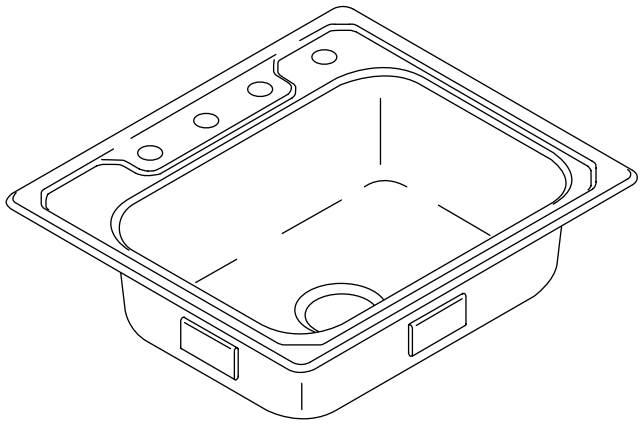
EMERGENCY: One Lithonia Way Conyers, GA 30012 Phone: 800.334.8694 Fax: 770.981.8141 www.lithonia.com ©1993-2011 Acuity Brands Lighting, Inc. All rights reserved Rev 03/16/11

STERLING®

A KOHLER® COMPANY

MIDDLETON™

SELF-RIMMING KITCHEN SINK
14711



Features

- *SilentShield™ sound deadening*
- *Self-rimming*
- *Rolled rim*
- *25″ (63.5 cm) x 22″ (55.9 cm) x 8″ (20.3 cm)*
- *Luster finish*

Codes/Standards Applicable

Specified model meets or exceeds the following:

- *None applicable*

Colors/Finishes

- NA: None applicable

Accessories:

- NA: None applicable

Specified Model

Model	Description	Holes	Basin Depth	Colors/Finishes
14711-3	Stainless steel sink	3	8″ (20.3 cm)	❑ NA
14711-3H	Stainless steel, mirror deck sink	3	8″ (20.3 cm)	❑ NA
14711-4	Stainless steel sink	4	8″ (20.3 cm)	❑ NA
14711-4H	Stainless steel, mirror deck sink	4	8″ (20.3 cm)	❑ NA
14711-5	Stainless steel sink	5	8″ (20.3 cm)	❑ NA
14711-5H	Stainless steel, mirror deck sink	5	8″ (20.3 cm)	❑ NA

**For more information
visit SterlingPlumbing.com
or call 1-800-STERLING**

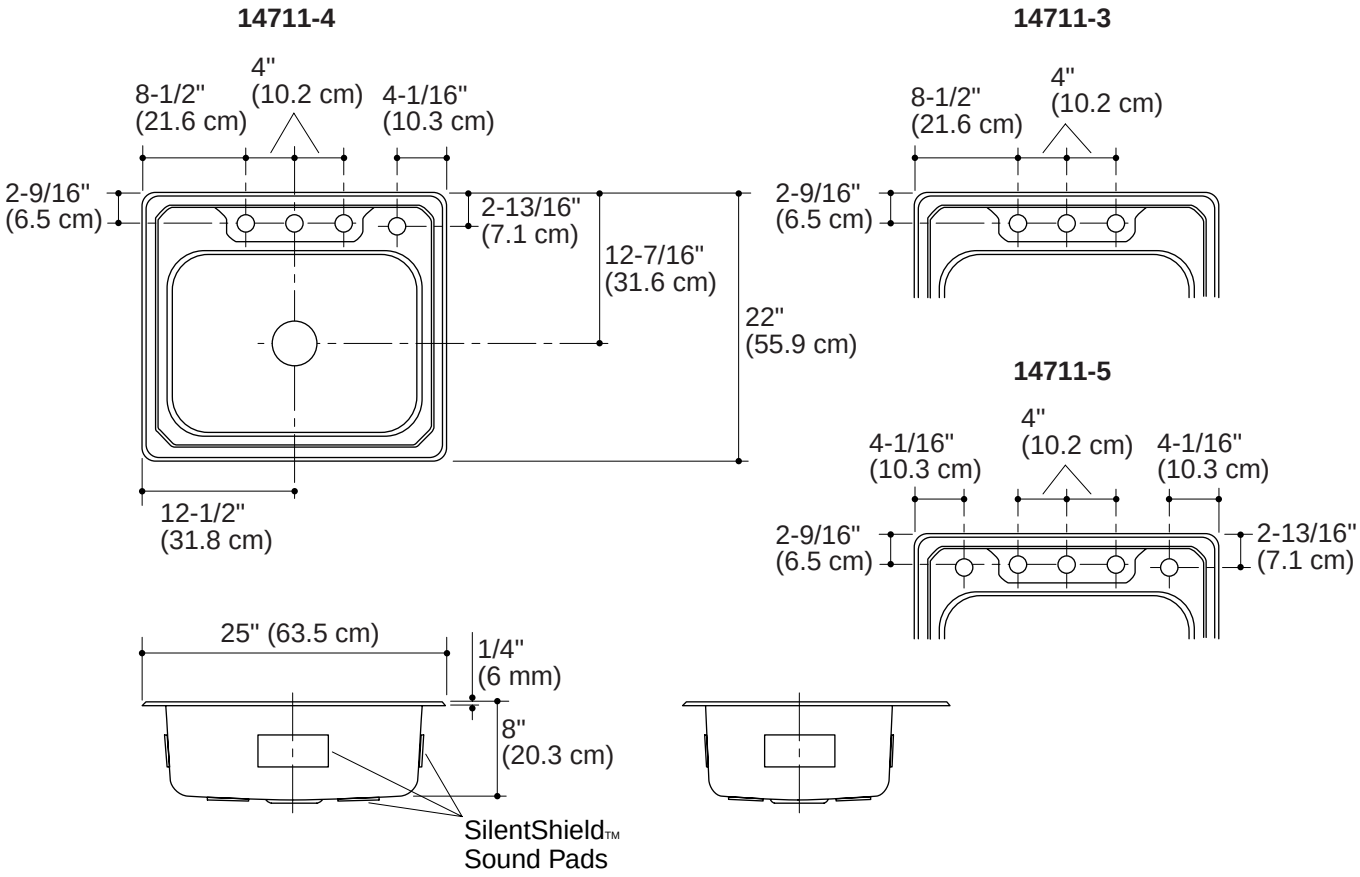
MIDDLETON™

Technical Information

Fixture*:	cutout size	basin area
Sink	24-1/2″ (62.2 cm) x 21-1/2″ (54.6 cm) with 1/2″ (1.3 cm) radius corners.	21″ (53.3 cm) x 15-1/4″ (38.7 cm)
Drain hole	3-5/8″ (9.2 cm) D.	
Faucet holes	1-7/16″ (3.7 cm) D.	
* Approximate measurements for comparison only.		

Installation Notes

Install this product according to the installation guide.



Product Diagram

KOHLER FAUCETS

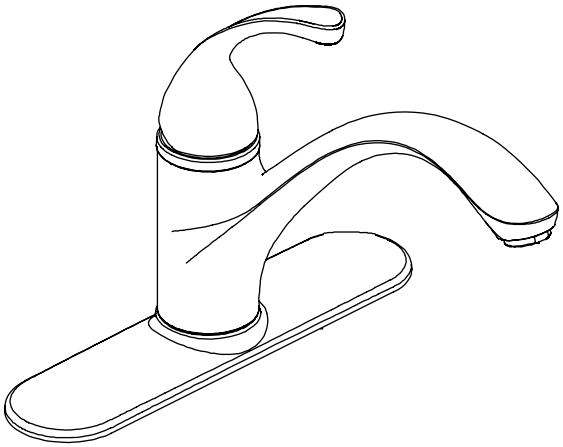
FORTÉ®

KITCHEN SINK FAUCET
K-10411

ADA | **CSA B651** | **OBC**

Features

- *Metal construction*
- *One-piece, self-contained ceramic disc valve allows both volume and temperature control*
- *Temperature memory allows faucet to be turned on and off at any temperature setting*
- *High-temperature limit setting for added safety*
- *9-1/16″ (23 cm) swing spout reach*
- *Flexible supplies*
- *Lower flow aerator options are available (refer to the Kohler Price Book)*
- *2.2 gpm (8.3 lpm) maximum flow rate*



Codes/Standards Applicable

Specified model meets or exceeds the following at date of manufacture:

- *ADA*
- *ICC/ANSI A117.1*
- *CSA B651*
- *OBC*
- *ASME A112.18.1/CSA B125.1*
- *NSF 61*
- *Energy Policy Act of 1992*
- *All applicable US Federal and State material regulations*

Colors/Finishes

- CP: Polished Chrome
- BN: Brushed Nickel
- Other: Refer to Price Book for additional colors/finishes

Accessories

- CP: Polished Chrome
- BN: Brushed Nickel
- Other: Refer to Price Book for additional colors/finishes

Specified Model

Model	Description	Colors/Finishes		
K-10411	Kitchen sink faucet	❑ CP	❑ BN	❑Other ____
Recommended Accessories				
K-1893-C	Soap/lotion dispenser – transitional design	❑ CP	❑ BN	❑Other ____
K-1894-C	Soap/lotion dispenser – traditional design	❑ CP	❑ BN	❑Other ____
K-1895-C	Soap/lotion dispenser – contemporary design	❑ CP	❑ BN	❑Other ____

PRODUCT SPECIFICATION

The single-control kitchen sink faucet shall be of metal construction. Product shall have a maximum flow rate of 2.2 gallons (8.3 L) per minute with lower flow aerator options available (refer to the Kohler Price Book). Product shall feature a one-piece, self-contained ceramic disc valve, which allows both volume and temperature control. Product shall feature temperature memory, allowing the faucet to be turned on and off at any temperature setting. Product shall feature a high-temperature limit setting for added safety, a 9-1/16″ (23 cm) swing spout reach, and flexible supplies. Faucet shall be Kohler Model K-10411-___.

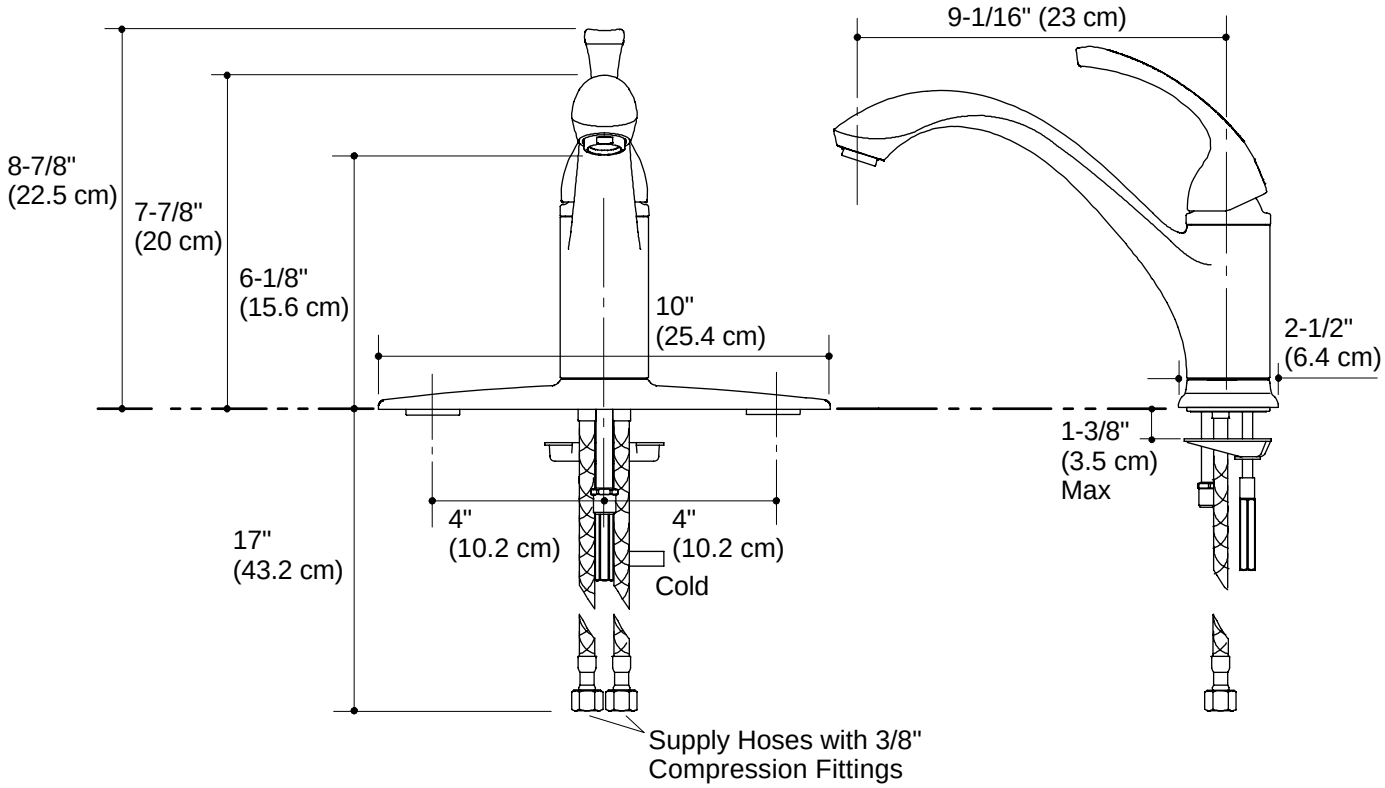
USA/Canada: 1-800-4KOHLER
(1-800-456-4537)
www.kohler.com

FORTÉ®

Installation Notes

Install this product according to the installation guide.

ADA, **CSA B651**, **OBC** compliant when installed to the specific requirements of these regulations.



Product Diagram

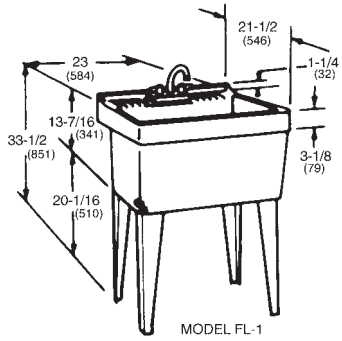
THE BOLD LOOK OF KOHLER®

Laundry Tubs

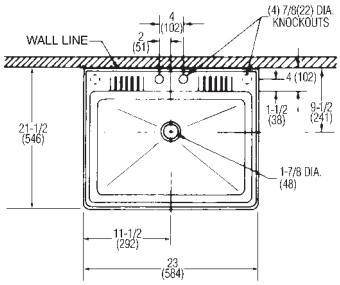
FL-1 FLOOR MOUNTED SERV-A-SINK

ID: 20¼" x 17¼" x 13"
(514 x 438 x 330)

Overall height from floor is 34¾" (883)
CSA Approved



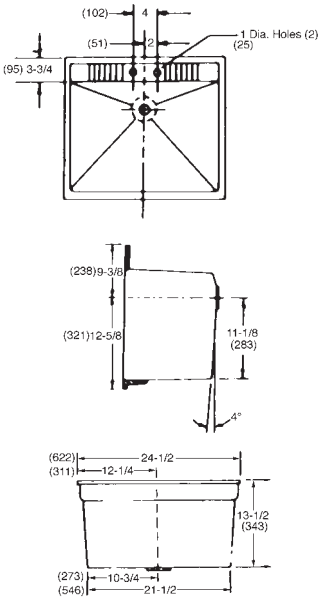
MODEL FL-1



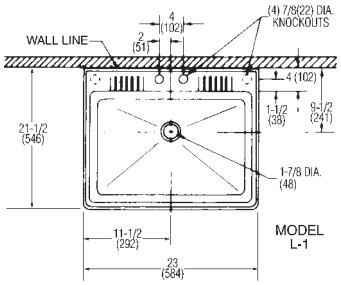
DL-1 DROP-IN SERV-A-SINK

ID: 22⅛" x 17" x 12¾"
(562 x 432 x 324)

Underside flange rim sealant for watertightness supplied by others.



L-1 WALL HUNG SERV-A-SINK



ID: 20¼" x 17¼" x 13" (514 x 438 x 330)
CSA Approved

SPECIFICATIONS

MODELS: L-1, FL-1, DL-1, LTD, FLTD

Fiat Products uses a specialized SMC process (Molded Stone®) to manufacture all laundry tubs. Moldings are manufactured in matched metal dies under heat and pressure resulting in a homogeneous molded unit. Drain(s) with stopper(s) are furnished as standard equipment. Capacity shall be 76 litres (17 Imp gal) for the single tub sink and 152 litres (33 Imp gal) for the double tub sink. Laundry sinks available in white only.

Wall mounted tubs are provided with a heavy gauge galvanized - steel bracket capable of withstanding 600 pounds. The side fillers and bottom tub support, which are assembled in field to the mounting brackets, are made of white molded plastic polymer.

Floor mounted tubs are provided with white baked enamel angle legs that slip into molded sockets for rigid, friction-fit. Easy leveling devices are provided for fast, even planing. This handsome tub is capable of handling 600 pounds.

Model DL-1 tub has been designed for a countertop installation. It comes with a self-rimming flange, four locking corner bars and screws for fast tightening into integral molded mounting legs and against the underside of the countertop.

All single compartment laundry tubs are available in six-packs (L-6 and FL-6) and bulk quantities.

All products must be installed in accordance with installation instructions provided. Failure to do so may invalidate warranty at manufacturer's discretion.

FIAT PRODUCTS®
A CRANE PLUMBING COMPANY

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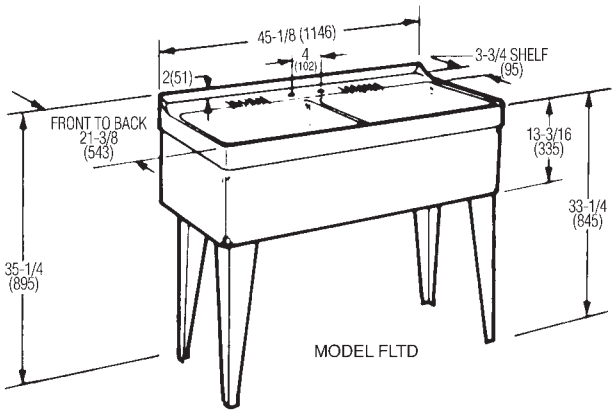
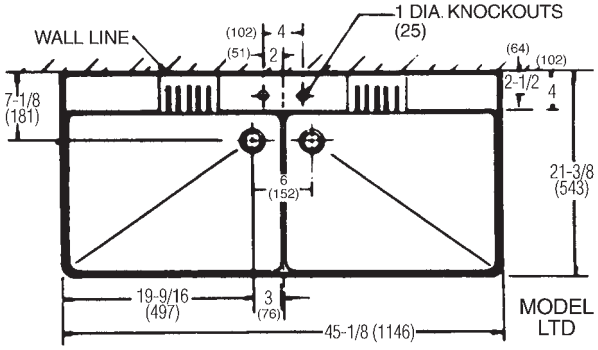
e-mail: info@fiat.ca • website: www.fiat.ca

A subsidiary of CR/PL, L.L.C. Company – Evanston, IL

ID (each compartment): 21½" x 16½" x 12¾" (546 x 419 x 324)
Overall height from floor is 35¼" (895)



ID (each compartment): 21½" x 16½" x 12¾" (546 x 419 x 324)



Sheet Molding Compound (SMC)

Consists of four dry ingredients – filler, fire retardant, thickener, and internal mold release – which are mixed together. The dry items are then mixed with liquid resin and a catalyst, which form a thick paste. The paste is then spread evenly over a sheet of polyethylene and sprinkled evenly with one-inch chopped glass fibers, which in turn is covered by another sheet of polyethylene. The sheet is then kneaded with heavy steel rollers until all fiberglass is covered with paste. The kneaded sheets are then layered and left to mature in bins for three days. The polyethylene sheets are then removed and the SMC is no longer a paste but something comparable to 1/4" wet leather. It is at this point that the sheet goes into a mold under extreme heat and pressure and a desired mold is achieved.

Chrome Plated Faucet

A-1 DECK TYPE FAUCET

Quality built brass faucet with serving spout mounts on rear deck.

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HACKER TESTED
network solutions
Certified18-Jan

Industrial Shelving Systems
455 E. Elliott Ave St. Louis, MO 63122

Call Us Toll Free at 1-800-875-6201 or at 314-965-6500

Tri-Boro Open Style Starter with 5 shelves

48x24x85 with 5 shelves/375 lb capacity per shelf

Model#:OSB85-2448-5L

$154.10

Qty: 1 Select Color: Gray

Add to cart

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Industrial Shelving Systems
455 E. Elliott Ave St. Louis, MO 63122

Call Us Toll Free at 1-800-875-6201 or at 314-965-6500

Tri-Boro Open Style Starter with 5 shelves

36x24x85 with 5 shelves/550 lb capacity per shelf

Model#:OSB85-2436-5L

$126.45

Qty: 1 Select Color: Gray

Add to cart

85 Series Standard & 185 Series Bracket System

HEAVY-DUTY

- **Up to 680 lbs./pair***
- **Double slot design**
- **Adjustable in 1" increments**

Applications

Designed for extra-heavy adjustable storage needs or long extended runs of shelving in commercial and industrial applications. Ideal for residential uses such as supporting workbenches or countertops in utility rooms. Also, ideal for shelving in retail stores and industrial warehouses. Great for areas receiving frequent use and rough handling.

Load Rating: Varies per size*

Mounting: Wall

Material: 14- and 16-gauge steel construction

Finishes:

RoHS Compliant: **Anochrome (ANO) , White (WH):** Attractive, long-lasting, corrosion resistant finishes

Features:

A broad range of sizes accommodates virtually any configuration and can be quickly adjusted to changing storage needs. The double lug pattern and double slot design is built to withstand high weight load demands. Accessories for the 85 Series Standard & 185 Series Bracket System allow use with hang rods, attachment of decorative panels for store fixturing needs, or to create long extended runs of shelving. 180 Series Brackets and all other KV 1" adjustable brackets can also be used with 85 Series Standards.

85 Series Standards

- Dimensions: 1-1/4" wide x 1/2" deep x selected length
- 16-gauge steel construction
- Made in the USA
- Available from open stock

185 Series Brackets

- 16-gauge steel construction: 8" - 12" brackets
- 14-guage steel construction: 14" - 24" brackets
- Vertically adjustable in 1" increments
- Made in the USA
- Available from open stock

* Contact KV Customer Service for more information.

Knape & Vogt®, 2700 Oak Industrial Drive NE, Grand Rapids, MI USA 49505 | P 616.459.3311 | 800.253.1561 | F 616.459.3290 | www.kv.com

85 Series Standards

Anochrome
(ANO)

RoHS

White
(WH)

RoHS

Standard Pack (10/pack. 40 lbs./100 ft.)		
Size	**Anochrome (ANO)**	**White (WH)**
24"	85 ANO 24	85 WH 24
36"	85 ANO 36	85 WH 36
48"	85 ANO 48	85 WH 48
60"	85 ANO 60	85 WH 60
72"	85 ANO 72	85 WH 72
84"	85 ANO 84	85 WH 84
96"	85 ANO 96	85 WH 96

185 Series Brackets

Anochrome (ANO)

RoHS

White (WH)

RoHS

Standard Pack (10/box. 12" Package weighs approx. 9.5 lbs.)		
Size	**Anochrome (ANO)**	**White (WH)**
8"	185 ANO 8	185 WH 8
10"	185 ANO 10	185 WH 10
12"	185 ANO 12	185 WH 12
14"	185 ANO 14	185 WH 14
16"	185 ANO 16	185 WH 16
18"	185 ANO 18	185 WH 18
20"	185 ANO 20	185 WH 20
22"	185 ANO 22	185 WH 22
24"	185 ANO 24	185 WH 24

Screws & Accessories

106 ANO

RoHS

Recommended Screws (For mounting standards.)
#10 flat-head wood screws

Shelf Rest (Used for joining two shelves at one bracket.)	
Standard Pack (100/box)	
Anochrome (ANO)	
106 ANO	

107 ANO

RoHS

Hang Rod Clamp (Bolts to 183 and 185 Brackets to hold garment rods securely in position.)	
Standard Pack (20/box)	
Anochrome (ANO)	
107 ANO	

85 Series Standard & 185 Series Bracket System

85 Series
Double-Slot
Wall Standard

185 Series
Double-Flange
Adjustable Bracket

1. PRODUCT NAME

85 Series Double-Slot Wall Standard.185 Series Double-Flange Adjustable Bracket. For long-run, heavy-duty shelving in light industrial, commercial, and retail applications.

2. MANUFACTURER

Knape & Vogt Manufacturing Company
2700 Oak Industrial Dr. NE
Grand Rapids, MI USA 49505-6026
(616) 459-3311 | www.kv.com

3. PRODUCT DESCRIPTION

Basic Use: 85 Series Double-Slot Wall Standards and 185 Series Double-Flange Adjustable Brackets are manufactured for storage and display applications in retail stores, light warehouses, light industrial, repair garages, maintenance storage, business office storage, residential storage, and other heavy-load situations. Standards are double slotted to accommodate double-width/double-flange brackets.

85 Series Double-Slot Wall Standards and 185 Series Double-Flange Adjustable Brackets are effective for long shelf runs. Where two shelves meet, each can have its own bracket flange for support. 85 Series Double-Slot Wall Standards mount to most wall types, and accommodate 180 Brackets and all other KV 1" adjustable brackets.

Accessories: 106 ANO (Anochrome) Shelf Rests are recommended for use with 185 Series Double-Flange Adjustable Brackets for anchoring the shelf to the bracket. 107 ANO (Anochrome) Hang Rod Clamp bolts to 185 Series Double-Flange Adjustable Brackets to hold garment rod.

Composition and Materials: 85 Series Double-Slot Wall Standards: 16-gauge steel. 185 Series Double-Flange Adjustable Brackets: 16-gauge steel (8", 10", and 12" brackets); 14-gauge steel (14"-24" brackets).

Sizes:

85 Standards: 1-1⁄4" wide x 1⁄2" deep x selected length.

Stock lengths: 24", 36", 48", 60", 72", 84", 96"

185 Brackets: 0.66" wide x 4.44" high; used for shelf depths of 8", 10", 12", 14", 16", 18", 20", 22", and 24".

Finishes: RoHS Compliant: Anochrome (electro zinc-plated and lacquered cold rolled steel) and White (powder-coated paint).

4. TECHNICAL DATA

Applicable Standards: Standards and brackets are tested to meet or exceed ANSI performance standards as established by BHMA in the Knape & Vogt™ (KV®) recommended application.

These load limits are intended to be used as general guidelines only, and no warranty — expressed or implied — is made by Knape & Vogt™.

Results were obtained by laboratory testing in accordance with ANSI/ BHMA A156.9-2003 performance standard. (Load ratings based on standards being mounted on 16" centers. Wider spacing will result in reduced load capacity.) Actual use conditions will typically result in lower load capacity than laboratory conditions.

Representative testing in a fully configured application is the only way to assure proper performance, durability, and safety.

The aforementioned shelf support load limit is intended as a guide only and not as a warranty. Actual load bearing capabilities depend upon the type of cabinet/wall material and use of appropriate shelf standard mounting fasteners, installation technique, shelf standard spacing, shelf size and construction.

Environmental Considerations:

Environment: Excessive humidity, salts, or other chemical agents can corrode the finish and attack metal or plastic components.

Fastening: Inadequate or incorrect fasteners can result in the standard pulling loose and causing damage.

Alignment: Improper standard/bracket alignment can result in a shelving system that is ineffective and unsafe.

5. INSTALLATION

For maximum loading capacity, standards should be mounted directly to wall studs, which are generally found at 16" intervals. (If standards will not be mounted to studs, use appropriate wall anchors.)

Use the recommended fasteners (#10 flat head wood screws) in all holes to properly secure the standard. Prior to drilling all holes, check to be sure that the standard is vertically level.

Place the bracket into the standard slots. Using a hammer handle or screwdriver handle, tap lightly near the bracket's base. The bracket will wedge into place.

6. AVAILABILITY AND COST

Availability: Knape & Vogt™ (KV®) products are available from stocking distributors and through KV® Representatives worldwide.

Cost: Current pricing is available from area KV® Representatives. Please call for the nearest representative: (800) 253-1561.

7. WARRANTY

Limited Lifetime Warranty: Knape & Vogt offers its standard Limited Lifetime Warranty to the initial purchaser of commercial products. This warranty covers defects in materials and workmanship which occur during normal use, and the remedy is limited to repair or replacement of defective products, at KV's option. Certain types of defects and damage are excluded from warranty coverage, costs and expenses are not covered, and additional restrictions apply. A copy of the Limited Lifetime Warranty, with all warranty details, limitations and disclaimers, is available on the Customer Care Connection location at www.kv.com or from KV Customer Service, 2700 Oak Industrial Drive, Grand Rapids, MI 49505, (800) 253-1561.

8. MAINTENANCE

85 Series Wall Standards and 185 Series Double-Slot Adjustable Brackets require no maintenance. Inspect for proper fit periodically and adjust when necessary. Replace as required or recommended by application.

9. TECHNICAL SERVICES

Knape & Vogt™ and area representatives can assist with any application. For further information, or for the name of the representative nearest you, please call Knape & Vogt™ Customer Service: (800) 253-1561 or visit our website at: www.kv.com.

10. FILING SYSTEMS

Additional product information, data sheets, application sheets, and a full catalog are available upon request from Knape & Vogt™.

BHMA *Knape & Vogt shelving products follow the ANSI testing standards established by BHMA.*

Knape & Vogt reserves the right to change product specifications at any time without notice and without incurring responsibility for existing units. This information conforms to editorial style prescribed by The Construction Specifications Institute.

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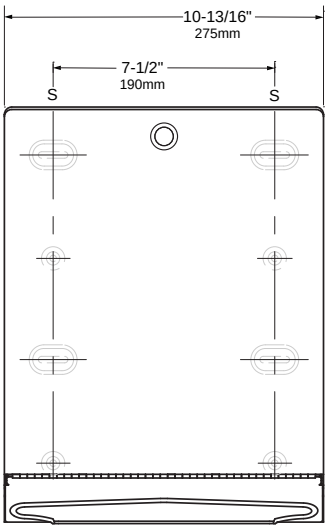
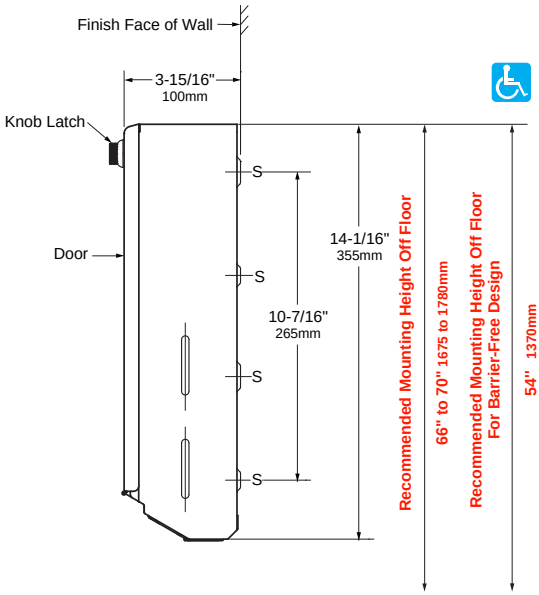
BOBRICK

Technical Data

ClassicSeries® SURFACE-MOUNTED PAPER TOWEL DISPENSER

B-2620





MATERIALS:

Cabinet — 18-8 S, type-304, 22-gauge (0.8mm) stainless steel with satin finish. All-welded construction. Exposed surfaces have satin finish. Towel tray has hemmed opening to dispense paper towels without tearing.

Door — 18-8 S, type-304, 22-gauge (0.8mm) stainless steel with satin finish. Secured to cabinet with a full-length stainless steel piano-hinge. Equipped with a knob latch.

Optional: Order Bobrick Part No. 262-130 TowelMate™ available as on optional accessory. TowelMate accessory allows for paper towels to dispense one at a time without bulging, sagging or falling through the towel tray opening. TowelMate fits Gamco and most manufacturers' similar models.

OPERATION:

Unit dispenses C-fold and multifold paper towels 3-1/8" to 3-13/16" (79–97mm) deep. Slots in sides of cabinet indicate refill time. Capacity: 400 C-fold or 525 multifold paper towels. To dispense narrower towels 2-1/2" to 3-1/8" (64–79mm) deep, order optional TowelMate accessory Bobrick Part No. 262-130.

INSTALLATION:

Mount unit on wall with four #10 x 1-1/4" (4.8 x 32mm) sheet-metal screws (not furnished) at four of the eight mounting holes indicated by an *S* (top slots and bottom holes preferable). For plaster or dry wall construction, provide concealed backing to comply with local building codes, then secure with sheet-metal screws. For other wall surfaces, provide fiber plugs or expansion shields for use with sheet-metal screws, or provide 1/8" (3mm) toggle bolts or expansion bolts.

SPECIFICATION:

Surface-mounted paper towel dispenser shall be type-304 stainless steel with all-welded construction; exposed surfaces shall have satin finish. Door shall be secured to cabinet with a full-length stainless steel piano-hinge and equipped with a knob latch. Paper towel tray shall have hemmed opening to dispense paper towels without tearing. Unit shall be capable of dispensing 400 C-fold or 525 multifold paper towels measuring 3-1/8" to 3-13/16" (79 to 97mm) deep. Narrower paper towels 2-1/2" to 3-1/8" (65 to 79mm) deep may be efficiently dispensed with the use of an optional TowelMate accessory, Bobrick Part No. 262-130. TowelMate accessory allows for paper towels to dispense one at a time without bulging, sagging or falling through the towel tray opening.

Surface-Mounted Paper Towel Dispenser shall be Model B-2620 of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario; Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.

The illustrations and descriptions herein are applicable to production as of the date of this Technical Data Sheet.
The manufacturer reserves the right to, and does from time to time, make changes and improvements in designs and dimensions.

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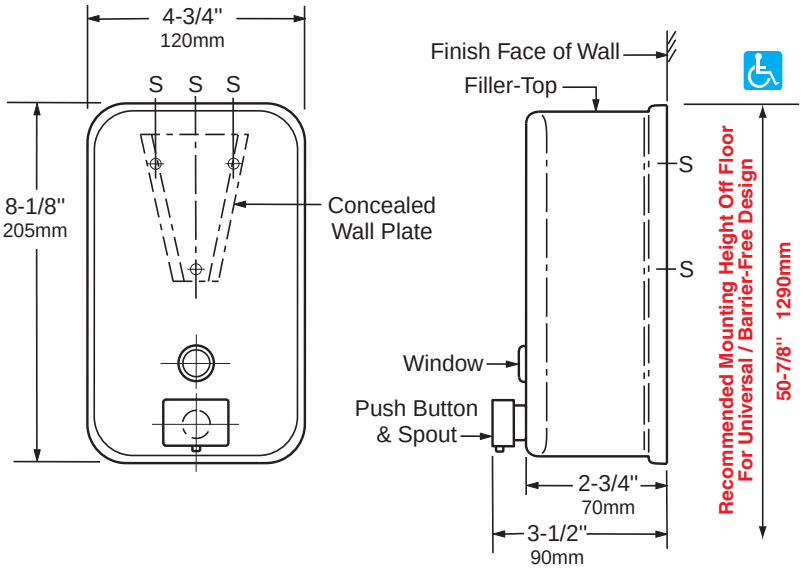
BOBRICK

Technical Data

ClassicSeries® SURFACE-MOUNTED SOAP DISPENSER

B-2111



MATERIALS:

Container — 18-8 S, type-304, 22-gauge (0.8mm) stainless steel with satin-finish. Body is drawn, one-piece, seamless construction. Back plate has mounting bracket attached. Furnished with concealed wall plate. Equipped with a clear acrylic refill-indicator window and a locked, hinged stainless steel lid for top filling. Capacity: 40-fl oz (1.2-L).

Valve — Black molded plastic push button and spout. Soap head-holding mushroom valve. Stainless steel spring. U-packing seal and duckbill. Antibacterial-soap-resistant plastic cylinder.

OPERATION:

Corrosion-resistant valve dispenses commercially marketed all-purpose hand soaps. To prevent corrosion of the tank, use only chloride-free pH-neutral liquid soaps. Valve is operable with one hand, without tight grasping, pinching, or twisting of the wrist, and with less than 5 pounds of force (22.2 N) to comply with barrier-free accessibility guidelines (including ADAAG in the U.S.A.). Window indicates when refill is required. The locked, hinged lid opens for top filling only with special key provided. Concealed, vandal-resistant mounting.

INSTALLATION:

Secure wall plate to the wall with three sheet-metal screws, furnished by manufacturer, at points indicated by an *S*. Slide mounting bracket of container down onto wall plate and secure unit with furnished locking-screw. For plaster or dry wall construction, provide concealed backing to comply with local building codes and secure with sheet-metal screws furnished. For other wall surfaces, provide fiber plugs or expansion shields for use with sheet-metal screws furnished, or provide 1/8" (3mm) toggle bolts or expansion bolts.

Note: Surface-mount the dispenser plumb and true with valve 6" (150mm) to right or left of lavatory center. Provide 4" (100mm) minimum clearance from the lid to the underside of any horizontal projection. Push buttons should be located 44" (1120mm) maximum above the finish floor.

SPECIFICATION:

Surface-mounted soap dispenser shall be type-304 stainless steel with satin-finish. Corrosion-resistant valve shall dispense commercially marketed all-purpose hand soaps. To prevent corrosion of the tank, use only chloride-free pH-neutral liquid soaps. Valve shall be operable with one hand and with less than 5 pounds of force (22.2 N) to comply with barrier-free accessibility guidelines (including ADAAG in the U.S.A.). Container shall be equipped with a clear acrylic refill-indicator window; a locked, hinged stainless steel lid for top filling; and shall have a capacity of 40-fl oz (1.2-L). Unit shall have concealed, vandal-resistant mounting.

Surface-Mounted Soap Dispenser shall be Model B-2111 of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario; Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.

The illustrations and descriptions herein are applicable to production as of the date of this Technical Data Sheet.
The manufacturer reserves the right to, and does from time to time, make changes and improvements in designs and dimensions.

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OPAQUE / SOLYX: SXWF-BO BLACKOUT BLACK FILM. 60" WIDE

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SOLYX: SXWF-BO Blackout Black Film. 60" wide

SOLYX: Blackout Black opaque polyester. 1.5 mil film. Very easy to install because it is thinner than other blackout films. 100% light block. This film is not recommended for installation onto double insulated glass units that are exposed to direct sunlight. Glass breakage may occur due to heat absorption! Priced per ft. Order the length (quantity) needed x 60" wide.

$13.75 per running foot

1 Select the total length in number of feet

Length: 1

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Up to 5 Free Samples

SECTION 13010 - ASBESTOS REMOVAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

General provisions of the contract, including General and Supplementary Conditions and other Specification sections apply to work of this specification, which has been prepared by Environmental-Materials Consultants, Inc.

1.2 PROJECT/WORK IDENTIFICATION

A. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, addenda and modifications to the contract documents issued subsequent to the initial printing of the project manual and including but not necessarily limited to printed material referenced by any of these. Work of the contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the contract documents.

B. Abbreviated Written Summary: Briefly and without force and effect upon the contract documents, the work of this Section can be summarized as follows:

Controlled preparation, removal, clean-up, and disposal of asbestos-containing ceiling tile, bituminous coating, sink coating, floor tile and mastic from the basement area of Foy Hall that is being renovated to accommodate the Native American Collection, as described in this specification section and on the drawing.

C. Engineer: The Engineer for the work included in this specification section is:

Environmental-Materials Consultants, Inc.
2027 Chestnut Street
Montgomery, Alabama 36106-1110
334-265-4000

The Engineer may also provide administration, observation and/or monitoring services for the Owner. Services provided by the Engineer do not in any way relieve the Contractor of his obligation to perform the work in conformity with the drawings, specifications and governmental regulations.

This specification section and associated drawings were prepared by W. Haynes Kelley, Jr., P.E. Mr. Kelley is accredited in the State of Alabama as an asbestos project designer. His current accreditation number is APD0312203633.

1.3 COORDINATION AND SCHEDULING

A. In order to prevent the uncontrolled release of asbestos fibers and exposure of renovation workers and other building occupants to elevated airborne asbestos concentrations, it is necessary to properly remove asbestos-containing materials that are likely to be disturbed prior to commencement of the renovation activities.

B. The General Contractor and any subcontractors must be aware of the asbestos materials within the specified rooms of Foy Hall and must coordinate their activities to ensure that asbestos materials are only disturbed under controlled conditions as specified herein.

C. The Contractor must coordinate the asbestos removal work with the University in order to properly segregate work areas from areas that must remain fully or partially occupied or operational, or in which other special considerations are required.

D. All asbestos removal work is to be completed within two days. Liquidated damages, in the amount of

$550 per day, or portion thereof, will be charged for additional days of asbestos removal work. Asbestos removal work will be considered to have begun when any asbestos material within the project area is first disturbed. Asbestos removal work will be considered completed when all specified asbestos removal and cleaning is completed, and the work area is ready for clearance observations and testing.

1.4 REGULATORY REQUIREMENTS

A. By executing the Contract, the Contractor does hereby acknowledge awareness and familiarity with the contents and requirements of the regulations, codes and standards listed in this section and assume responsibility for the performance of the Work in strict compliance therewith and for every instance of failure to comply therewith.

B. The current issue of each document shall govern. Where conflict among requirements or with these specifications exists, the more stringent requirements shall apply.

1. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Construction Industry Standards (Code of Federal Regulations Title 29, Part 1926).

2. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Construction Standard for Asbestos (Code of Federal Regulations Title 29, Part 1926.1101).

3. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Personal Protective Equipment Standard (Code of Federal Regulations Title 29, Part 1910.132).

4. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Respiratory Protection Standard (Code of Federal Regulations Title 29, Part 1910.134).

5. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA): Hazard Communication Standard (Code of Federal Regulations Title 29, Part 1910.1200).

6. U. S. Environmental Protection Agency (EPA): National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR, Part 61, Subparts A and M.

7. U. S. Environmental Protection Agency (EPA): "Asbestos Containing Materials in Schools; Final Rule and Notice" (Code of Federal Regulations Title 40, Part 763.80).

8. U. S. Environmental Protection Agency (EPA): "Model Accreditation Plan" (Code of Federal Regulations Title 40, Part 763).

9. U. S. Environmental Protection Agency (EPA): "Asbestos School Hazard Abatement Reauthorization Act (ASHARA)" (Code of Federal Regulations Title 40, Part 763).

10. U. S. Department of Transportation (DOT): Transportation Standards (Code of Federal Regulations Title 49, Part 100 - 185).

11. The Alabama Asbestos Contractors Accreditation Act, 89-517.

12. Auburn University's Asbestos Control Program dated September 22, 2006.

13. All other Federal, State, County and City regulations, codes and ordinances as applicable.

This list is provided as a convenience to the Contractor and is not to be considered all inclusive of the codes, standards, regulations and laws. It is the sole responsibility of the Contractor to maintain a safe work site.

1.5 INSURANCE

A. GENERAL

1. RESPONSIBILITY. The Contractor shall be responsible to the Owner from the time of the

signing of the Construction Contract or from the beginning of the first work, whichever shall be earlier, for all injury or damage of any kind resulting from any negligent act or omission or breach, failure or other default regarding the work by the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of who may be the owner of the property.

2. INSURANCE PROVIDERS. Each of the insurance coverages required below shall be issued by an insurer licensed by the Insurance Commissioner to transact the business of insurance in the State of Alabama for the applicable line of insurance, and such insurer (or, for qualified self-insureds or group self-insureds, a specific excess insurer providing statutory limits) must have a Best Policyholders Rating of "A-" or better and a financial size rating of Class V or larger.

3. NOTIFICATION ENDORSEMENT. Each policy shall be endorsed to provide that the insurance company agrees that the policy shall not be canceled, changed, allowed to lapse or allowed to expire for any reason until thirty days after the Owner has received written notice by certified mail as evidenced by return receipt or until such time as other insurance coverage providing protection equal to protection called for in the Contract Documents shall have been received, accepted and acknowledged by the Owner. Such notice shall be valid only as to the Project as shall have been designated by Project Name and Number in said notice.

4. INSURANCE CERTIFICATES. The Contractor shall procure the insurance coverages identified below, or as otherwise required in the Contract Documents, at the Contractor's own expense, and to evidence that such insurance coverages are in effect, the Contractor shall furnish the Owner an insurance certificate(s) acceptable to the Owner and listing the Owner as the certificate holder. The insurance certificate(s) must be delivered to the Owner with the Construction Contract and Bonds for final approval and execution of the Construction Contract. The insurance certificate must provide the following:
   (a) Name and address of authorized agent of the insurance company
   (b) Name and address of insured
   (c) Name of insurance company or companies
   (d) Description of policies
   (e) Policy Number(s)
   (f) Policy Period(s)
   (g) Limits of liability
   (h) Name and address of Owner as certificate holder
   (i) Project Name and Number, if any
   (j) Signature of authorized agent of the insurance company
   (k) Telephone number of authorized agent of the insurance company
   (l) Mandatory thirty day notice of cancellation / non-renewal / change
   (m) A statement that said insurance shall specifically provide coverage to the OWNER, the OWNER'S professional consultants and any subcontractor performing work covered by this Contract for claims made by any claiming injury as a result of exposure to asbestos which exposure is alleged to have resulted from the performance of the Project.

5. MAXIMUM DEDUCTIBLE. Self-insured retention, except for qualified self-insurers or group self-insurers, in any policy shall not exceed $25,000.00.

B. INSURANCE COVERAGES

Unless otherwise provided in the Contract Documents, the Contractor shall purchase the types of insurance coverages with liability limits not less than as follows:

1. WORKERS' COMPENSATION and EMPLOYER'S LIABILITY INSURANCE
   (a) Workers' Compensation coverage shall be provided in accordance with the statutory coverage required in Alabama. A group insurer must submit a certificate of authority from the Alabama Department of Industrial Relations approving the group insurance plan. A self-insurer must submit a certificate from the Alabama Department of Industrial Relations stating the Contractor qualifies to pay its own workers compensation claims.
   (b) Employer's Liability Insurance limits shall be at least:
      (1) Bodily Injury by Accident - $1,000,000 each accident

(2) Bodily Injury by Disease - $1,000,000 each employee

2. COMMERCIAL GENERAL LIABILITY INSURANCE

(a) Commercial General Liability Insurance, written on an ISO Occurrence Form (current edition as of the date of Advertisement for Bids) or equivalent, shall include, but need not be limited to, coverage for bodily injury and property damage arising from premises and operations liability, products and completed operations liability, blasting and explosion, collapse of structures, underground damage, personal injury liability and contractual liability. The Commercial General Liability Insurance shall provide at minimum the following limits:

Coverage	Limit
(1) General Aggregate	$ 2,000,000.00 per Project
(2) Products, Completed Operations Aggregate	$ 2,000,000.00 per Project
(3) Personal and Advertising Injury	$ 2,000,000.00 per Occurrence
(4) Each Occurrence	$ 2,000,000.00

(b) Additional Requirements for Commercial General Liability Insurance:

(1) The policy shall name Auburn University and its agents, consultants and employees as additional insureds, state that this coverage shall be primary insurance for the additional insureds; and contain no exclusions of the additional insureds relative to job accidents.

(2) The policy must include separate per project aggregate limits.

3. COMMERCIAL BUSINESS AUTOMOBILE LIABILITY INSURANCE

(a) Commercial Business Automobile Liability Insurance which shall include coverage for bodily injury and property damage arising from the operation of any owned, non-owned or hired automobile. The Commercial Business Automobile Liability Insurance Policy shall provide not less than $2,000,000 Combined Single Limits for each occurrence.

(b) The policy shall name Auburn University and its agents, consultants, and employees as additional insureds.

4. POLLUTION LIABILITY INSURANCE

(a) Contractor shall maintain Pollution Liability Insurance covering the Contractor's liability, or the liability of a subcontractor, if not provided by the subcontractor, for bodily injury, property damage, and environmental damage resulting from sudden, accidental, or gradual pollution or pollutant release to the environment, and related clean-up costs incurred, all arising out of the work or services to be performed under this contract. Coverage shall be provided for both work performed on site, as well as during the transport of hazardous materials.

Coverage	Limit
(1) General Aggregate	$ 5,000,000.00 per Project
(2) Each Occurrence	$ 5,000,000.00

(b) Additional Requirements for Pollution Liability Insurance:

(1) The policy shall name Auburn University and its agents, consultants, and employees as additional insureds.

(2) The policy must be on an "occurrence" basis.

C. SUBCONTRACTORS' INSURANCE

1. WORKERS' COMPENSATION and EMPLOYER'S LIABILITY INSURANCE. The Contractor shall require each Subcontractor to obtain and maintain Workers' Compensation and Employer's Liability Insurance coverages as described in preceding Paragraph B, or to be covered by the Contractor's Workers' Compensation and Employer's Liability Insurance while performing Work under the Contract.

2. LIABILITY INSURANCE. The Contractor shall require each Subcontractor to obtain and maintain adequate General Liability and Automobile Liability Insurance coverages similar to

those described in preceding Paragraph B. Such coverage shall be in effect at all times that a Subcontractor is performing Work under the Contract.

3. ENFORCEMENT RESPONSIBILITY. The Contractor shall have responsibility to enforce its Subcontractors' compliance with these or similar insurance requirements; however, the Contractor shall, upon request, provide the Architect or Owner acceptable evidence of insurance for any Subcontractor.

D. ASBESTOS COVERAGE

Worker's Compensation, Commercial General Liability and Pollution Liability policies for the Contractor shall provide coverage for claims made by any claiming injury as a result of exposure to asbestos which exposure is alleged to have resulted from the performance of the Project. Said insurance shall specifically provide coverage to the OWNER, the OWNER'S professional consultants and any subcontractor performing work covered by this Contract.

E. TERMINATION of OBLIGATION to INSURE

The obligation to carry insurance coverages specified under Subparagraphs B(1) through B(4) and Paragraph C shall remain in effect after the Date(s) of Substantial Completion until such time as all Work required by the Contract Documents is completed. Equal or similar insurance coverages shall remain in effect if, after completion of the Work, the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, returns to the Project to perform warranty or maintenance work pursuant to the terms of the Contract Documents.

F. WAIVERS of SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors performing construction or operations related to the Project, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by builder's risk insurance or other property insurance applicable to the Work or to other property located within or adjacent to the Project, except such rights as they may have to proceeds of such insurance held by the Owner or Contractor as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors, if any, and the subcontractor, sub-subcontractors, suppliers, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The Policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to the person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged. The waivers provided for in this paragraph shall survive final acceptance and continue to apply to insured losses to the Work or other property on or adjacent to the Project.

1.6 SUBMITTALS

A. Submit three bound sets to the Engineer for his review the following pre-job submittals. The Work of this section may not proceed until the complete pre-job submittal package has been reviewed and approved by Engineer.

Note: The Engineer will only accept complete sets of both Pre and Post-Job Submittals. If incomplete sets are submitted the Engineer or his representative will prepare correspondence advising the contractor that his submittal is incomplete, and then the Engineer will discard the incomplete submittals.

1. Copy of Contractor's "Notice of impending commencement of asbestos removal work" which was submitted in writing not fewer than ten days before work commences on the Project to:

Alabama Department of Environmental Management
Air Division
Attention: Mr. Ludwig C. Hoffmann III
P.O. Box 301463
Montgomery, Alabama 36130-1463

2. Copy of the Contractor's ADEM certificate to perform asbestos removal work within the State of Alabama.

3. Copies of the Safe State Certificates of Accreditation for the workers and supervisors that will be assigned to the project.

4. Signed statement from the Asbestos Removal Contractor certifying that all of his employees that will be on site have had medical evaluations by a licensed physician within the last twelve months.

5. Documentation of respiratory protection training and fit testing for each Contractor employee that will be on site. Fit testing dates must be within six months of the anticipated project completion date.

6. Individually signed Worker's Acknowledgment forms by each and every worker to be utilized on the project. Copies of these forms are included in this specification section.

Note: The asbestos removal contractor is required to submit a signed Worker's Acknowledgment form from each of his personnel, and his subcontractor personnel, who are present at the job site during the course of the project. For those personnel who are not asbestos removal workers or supervisors, and who will not enter the work area, the Contractor can cross out and initial the paragraphs that address respiratory protection, training and medical examination, if those personnel are not required to participate in those programs.

7. Copy of the Contractor's written OSHA Hazard Communication Program, Contingency/Emergency Plan, and Safety Program.

8. The names, titles and telephone numbers of at least two Contractor representatives that can be contacted in the event of an emergency.

9. Letter from the chosen waste disposal facility indicating that they will accept the waste from this project and are permitted by ADEM to accept asbestos waste.

10. Copy of any applicable permits required by the City of Auburn.

11. Material Safety Data Sheets (MSDSs) for all chemicals that will be used or that will be present on the job site.

12. Documentation of insurance coverage.

B. Submit three bound sets to the Engineer for his review of Post-Job Submittals following the final completion of the Work. Requests for final payment will not be approved until the Post-Job Submittal package has been reviewed and approved by Engineer.

1. Receipts from landfill operator, which acknowledges the Contractor's delivery(s) of waste material and includes the signature of an authorized representative of the landfill.

2. Copies of daily sign-in/sign-out logs. These logs shall include the name, date, time entering and leaving work area, company or agency represented and reason for entry for every person entering the work area.

3. Copies of daily project log, including descriptions of daily work activities and any unexpected situations or unusual events that occurred.

4. Copies of SafeState Certificates, Worker Acknowledgement Forms, documentation of medical

evaluations, documentation of respiratory protection training/fit tests and training documentation for any workers on the Project that were not listed in the pre-job submittal package.

1.7 QUALITY CRITERIA

A. The Asbestos Removal Contractor shall be certified by the Alabama Department of Environmental Management in accordance with the Alabama Asbestos Contractors Accreditation Act and have a record of not less than two years successful experience in asbestos removal and related work similar in scope and magnitude to this Project.

B. The Asbestos Removal Contractor shall maintain on site a superintendent who is SafeState accredited and has not less than one year of full-time experience in responsible charge of asbestos removal operations in similar scope and magnitude to this Project within the two-year period preceding start of project. The superintendent must be approved by the Engineer prior to the start of the Work and shall not be changed without prior approval of the Engineer.

C. Use only SafeState accredited and experienced asbestos removal workers to perform the Work.

1.8 PERSONAL PROTECTION

A. Prior to commencement of work, all workers shall be instructed in, and shall be knowledgeable of, the appropriate procedures for personal protection and for asbestos removal.

B. Contractor acknowledges and agrees that he is solely responsible for enforcing worker protection requirements at least equal to those specified in these specifications.

C. Provide workers with personally issued and marked respiratory equipment approved by NIOSH and OSHA to be suitable for the asbestos exposure levels encountered in the work areas according to OSHA 29 CFR 1926, or as more stringently specified elsewhere in the Contract Documents.

D. Where respirators with disposable filters are used, provide sufficient filters for replacement as necessary by the workers or as required in the Contract Documents. Use P100 particulate filters. Stack particulate filters with organic vapor filters when necessary for both particulate and organic vapor protection.

E. Provide respiratory protection at all times which is in compliance with or in excess of the Occupational Safety and Health Administration guidelines for respiratory protection.

F. Provide respiratory protection from the time that the first operation involved in the Project requires contact with asbestos-containing materials until acceptance of final air test results by Engineer. Minimum respiratory protection requirements are:

Fiber Concentration	Respiratory Protection
<0.1 f/cc	half face respirator
0.1 to 0.2 f/cc	PAPR
>0.2 f/cc	supplied air

G. Permit no visitors, except governmental inspectors having jurisdiction, in the work areas after commencement of asbestos disturbance or removal.

H. Provide workers with sufficient sets of protective disposable clothing, consisting of full-body coveralls, head covers, gloves and foot covers; of sizes to properly fit individual workers.

I. Provide eye protection, hearing protection, foot protection, fall protection, protection from electrical shock hazard, hard hats and other personal protective and safety equipment as required for job conditions or by applicable safety regulations. Leave reusable footwear, hard hats and eye protection devices in the contaminated equipment room until the end of the asbestos abatement work, at which time such items shall be disposed of as asbestos waste or decontaminated for reuse.

J. Provide protective clothing for use by Engineer or Engineer's representative. Furnish protective clothing in as many sets as required for full-time monitoring.

1.9 AIR MONITORING

A. The Engineer will perform daily air monitoring for the Owner during the Contractor's removal and clean-up operations. When the Contractor indicates that all removal and clean-up work is complete, the Engineer will perform clearance air monitoring for the Owner.

B. Notify Engineer of the commencement of asbestos removal at least 72 hours in advance and for other observations as noted throughout these specifications. Contractor may not proceed until such time as the observations have been performed by the Engineer.

C. Daily air monitoring samples will be analyzed by phase contract microscopy (PCM) in general accordance with the procedures outlined in the NIOSH 7400 Method. Clearance air monitoring samples will be analyzed by transmission electron microscopy (TEM) in general accordance with the procedures outlined in the EPA's AHERA regulations.

D. The Engineer will perform the Owner's testing and conduct specified clearance observations and monitoring. Such testing for the Owner does not relieve the Contractor of providing necessary tests required by other regulations, codes and standards for the protection of his workers, or for any other purposes.

E. Services provided by the Engineer shall not relieve the Contractor of his obligation to perform the work in conformity with the drawings, specifications and governmental regulations.

1.10 WORK AREA CLEARANCE

A. Contractor release criteria:

Asbestos work areas are considered ready for reoccupancy when all specified asbestos removal has been performed, the work area is visually clean, and airborne fiber levels have been reduced to the level specified below.

B. Clearance Trips

All clearance observations and testing are to be performed during a single site visit by the Engineer or his representative. Costs for additional clearance trips will be charged to the Contractor, and deducted from payments made to him.

C. Clearance Testing

1. Perform cleaning of all surfaces in work area and any other immediately adjacent contaminated areas.

2. Upon notice from Contractor that work areas and all other contaminated and cleaned areas are ready for Clearance Testing, the Engineer or his representative will perform visual observations and air tests. For Clearance the work area must be visually clean and the airborne fiber concentration must be equal to or less than 70 structures per square centimeter (s/cm2) when analyzed in accordance with 40 CFR 763, Subpart E (AHERA). Aggressive sampling procedures will be employed.

3. Areas which do not comply with the standard of cleaning shall continue to be cleaned by and at the Contractor's expense until the specified standard of cleaning is achieved as evidenced by visual observations and results of air sampling tests by Engineer as previously specified. The cost of all follow-up observations, sampling and analyses necessitated by the failure of previous observations and/or air tests to meet the clearance criteria shall be borne by the Contractor. The cost assessed to the contractor for each failed clearance attempt is likely to be about $750.

4. When the airborne fiber concentration of 70 s/cm2 or less is achieved and observation by Engineer or his representative determines that the area has been visually decontaminated, the decontamination enclosure system shall be removed and the area thoroughly cleaned. The

remaining barriers between contaminated and clean areas and all seals on openings into the work area and fixtures shall be removed and disposed of as contaminated waste.

D. Final Observation:

After removal of all enclosure and decontamination components, final observation of the cleaning work of this Section may be performed by Engineer.

E. Contractor's Representation:

By requesting that Clearance be performed in a work area the Contractor or his representative represents that all of the asbestos removal work for that work area has been performed as specified, and he agrees that should it be subsequently discovered that all of the work was not performed as specified he will take those steps necessary to cause it to be performed as specified; to include re-mobilization, preparation, abatement, cleanup and disposal.

F. Engineer's Representation:

By stating that Clearance has been obtained for a work area the engineer represents that the results of the Engineer's air testing indicate that the airborne fiber concentrations within the work area meet the specified clearance criteria and that brief visual observations by the Engineer or his representative indicate that the specified materials appear to have been removed from the work area and that the work area appears to have been cleaned. A statement of Clearance by the Engineer or his representative does not relieve the Contractor of his responsibility to perform all of the work as specified.

1.11 WORKSITE CONDITIONS

The Contractor and/or subcontractor is hereby advised that asbestos has been determined by the U. S. Government to be a cancer causing agent.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Plastic sheeting - Shall be fire resistant, of thickness specified, sized to minimize the frequency of joints.

B. Tape - Shall be glass fiber or other type capable of sealing joints of adjacent sheets of plastic and for attachment of plastic sheet to finished or unfinished surfaces or dissimilar materials.

C. Surfactant (wetting agent) - Shall consist of resin materials in water base which have been tested to indicate material is non toxic and non irritating to skin and eyes, and non carcinogenic.

D. Sealant (encapsulant) - Shall be manufactured by reputable, established manufacturer of encapsulation/sealant materials and be approved specifically for use in asbestos-contaminated environments.

E. Organic solvent - Shall be low odor solvent formulated for removal of floor tile mastic.

F. Cardboard sheeting/boxes or other appropriate padding - Shall be as required to prevent cement asbestos board, floor tile and other sharp waste materials from puncturing disposal bags.

G. Impermeable Containers and Disposal Bags - Shall be suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site and shall be labeled in accordance with OSHA Regulations 29 CFR 1926. Containers/bags must be both airtight and watertight. Waste must be double containerized or wrapped in a minimum of two layers of minimum six-mil thick plastic sheeting.

H. Warning Labels, Signs and Barricade Tape - Shall be as required by OSHA Regulation 29 CFR 1926.

I. Other Materials - Provide all other materials, such as lumber, nails and hardware, which may be required.

2.2 TOOLS AND EQUIPMENT

A. Air Purifying Equipment - Shall be HEPA Filtration Systems. Ensure that no air movement system or purification equipment exhausts contaminated air from the work area(s) outside the work area.

B. Hand tools as needed to perform limited demolition to access the asbestos materials and to perform the required abatement operations.

C. HEPA Vacuum Equipment - Shall be wet/dry vacuum unit equipped with HEPA filtration system.

D. Water Sprayer - Utilize airless or other low pressure sprayer for amended water application.

E. Safety equipment as required to protect workers. Safety equipment shall meet all applicable safety regulations.

F. Garden hoses or other means to keep asbestos-containing waste wet.

G. Dumpsters or other appropriate equipment for on-site storage and transportation of asbestos-containing waste.

PART 3 - EXECUTION

3.1 SUMMARY OF WORK

A. Work Included

1. Identify the location and amount of asbestos-containing materials described on the drawing or in the specification.

2. Prepare the work areas as specified.

3. Remove asbestos-containing materials as indicated on the drawing or in the specification.

4. Properly clean using wet-cleaning methods or HEPA vacuum methods all work areas following asbestos removal.

5. Clean using HEPA vacuum or wet wipe methods all exposed surfaces within the work area.

6. Leave all work areas decontaminated and visibly clean following the work of this Section.

7. Properly dispose of asbestos-containing waste materials and debris.

8. Maintain emergency and fire exits from the work area or establish alternative exits satisfactory to the local fire department.

B. Approval of or acceptance by Engineer of various construction activities or methods proposed by Contractor does not constitute an assumption of liability either by the Engineer or Owner for inadequacy or adverse consequences of said activities or methods.

3.2 PREPARATION

A. Coordinate sequence of work area preparation in and around the building with Owner in order to properly segregate work areas from areas that may be occupied during the removal work.

B. Asbestos Removal Areas

1. Post warning signs at all entrances into the work area and set up a restricted area using asbestos warning tape.

2. Coordinate with the University's representative to shut down and tag out electrical circuits, HVAC equipment, and other utilities servicing the work area, or that may otherwise be hazardous to contractor personnel. Provide temporary electrical and water service necessary to accomplish the specified work.

Note: Advanced notice will be required for utility shutdown because other areas of Foy Hall could be impacted.

3. Isolate the work area by constructing an enclosure of plastic sheeting sealed with tape and glue. Completely seal off all openings such as corridors, doorways, ducts, grilles, diffusers and any other penetrations of the work area.

4. Construct a temporary wall of 2x4 lumber and six-mil plastic sheeting along the "project limit", which is shown on the drawing. Initially extend the wall from the floor to the bottom of the ceiling tile. After all other preparation work is completed, and the negative air machines are energized, remove ceiling tiles above the wall, extend the wall to the concrete deck above, and seal the wall to the deck with tape, glue and wood bracing.

5. Seal electrical panels, switch boxes, etc. with a minimum of one layer of six-mil plastic sheeting prior to placing wall plastic.

6. Cover walls at the perimeter of the work area with a minimum of one layer of four-mil plastic sheeting. Glue and tape in such a manner as to prohibit air movement across all joints and seams in plastic sheeting.

7. Construct worker and equipment decontamination units in compliance with EPA and OSHA requirements.

8. Place the work area under reduced air pressure utilizing HEPA filtration systems that comply with ANSI Z9.2-79, local exhaust ventilation. Allow no air movement system or air filtering equipment to discharge unfiltered air outside the work area. Maintain a reduced pressure on the work area continuously (24 hours per day) from the start of asbestos removal and until the area has been decontaminated and certified as such by the required inspection and air testing. The reduced air pressure equipment shall have sufficient capacity to effect one air change in the work area every fifteen minutes and maintain a negative air pressure of at least 0.02 inches water. Exhaust all filtered and discharged air outside the building away from air intake devices.

Note: Negative air exhaust must be directed away from walkways and pedestrian areas. This may require erecting plywood barriers to deflect the negative air exhaust.

9. Ensure that all barriers and plastic enclosures remain effectively sealed and taped for duration of asbestos removal and subsequent cleaning. Repair damaged barriers and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period.

10. Notify Engineer for observation of work area preparation prior to any removal of asbestos-containing material.

11. Maintain for the duration of the project from the first activity requiring disturbance of asbestos-containing materials, a sign-in/out log in the immediate area of the change room. A complete entry shall be made in this log by every person who enters the work area.

3.3 ASBESTOS REMOVAL

A. Remove and properly dispose of all asbestos-containing and contaminated materials indicated to be removed in accordance with the methods and procedures outlined in the U.S. Department of

Occupational Safety and Health Administration (OSHA) Asbestos Regulations (Code of Federal Regulations Title 29, Section 1926) and the U.S. EPA National Emission Standards for Hazardous Air Pollutants (40 CFR 61, Subpart M) or as more stringently specified in these specifications.

B. Removal of Ceiling Tile

1. Prepare work area as specified in Section 3.2.

2. Mist the top and bottom surfaces of the ceiling tiles with amended water until the tile surfaces are wet. Do not apply so much water that it drips excessively. Mop up excess water as necessary.

3. Remove tiles from the grid without breaking them, and place them in pre-labeled six-mil asbestos removal bags.

4. Wet wipe and/or HEPA vacuum all surfaces of the ceiling tile grid to remove all asbestos from them. Place debris and soiled rags in the asbestos disposal bags.

Note: As an alternate to cleaning, the grid can be removed, sealed in two layers of six-mil plastic sheeting, properly labeled and disposed as asbestos waste.

5. Add water to the filled disposal bags until the ceiling tiles and debris are saturated, then seal the bags and place them in another approved container.

C. Removal of Sinks with Asbestos Coating

1. Prepare work area as specified in Section 3.2.

2. Ensure that water service to the sink is turned off and tagged out.

3. Disconnect water and drain piping from the sink.

4. Remove fasteners securing/supporting the sink. Remove the sink, cover any sharp edges or corners with cardboard, seal the sink in a minimum of two layers of six-mil plastic sheeting and label it for disposal.

D. Removal of Bituminous Coating

1. Prepare work area as specified in Section 3.2.

2. Mist the surface of the bituminous coating and adjacent pipe insulation with amended water until the surfaces are wet. Do not apply so much water that it spreads or drips excessively. Mop up excess water as necessary.

3. Using mechanical methods remove the fiberglass pipe insulation and associated coatings. Where bituminous coating is applied to the pipe or wall, remove the coating by mechanical methods and with minimum amounts of organic solvents. Use solvent materials and methods that minimize vapors. Provide workers with appropriate respiratory protection for solvent vapors as well as asbestos fibers.

4. Seal removed coating, insulation and debris in properly labeled six-mil disposal bags and then in another approved container.

E. Removal of Floor Tile and Mastic

1. Prepare work area as specified in Section 3.2.

2. Mist the floor tiles with amended water until the tile surfaces are wet. Do not apply so much water that it spreads or runs. Mop up excess water as necessary.

3. Using mechanical methods remove floor tile with minimal breakage.

4. Remove floor tile mastic using mechanical methods and minimum amounts of organic solvents. Use solvent materials and methods that minimize vapors. Provide workers with appropriate respiratory protection for solvent vapors as well as asbestos fibers.

5. Where casework and/or walls overlie floor tile and/or mastic, perform sufficient demolition of the wall or casework to access and remove the underlying floor tile and /or mastic.

6. Wrap or box removed tile in cardboard or use other method to prevent sharp edges from puncturing disposal bags/containers.

7. Place removed tile, mastic and debris in properly labeled six mil disposal bags and then in another approved container. Ensure that tile does not puncture the outer container.

Note: Apply no encapsulant in areas where flooring materials have been removed.

3.4 CLEAN UP

A. Provide general cleaning of work area concurrently with the removal of asbestos-containing materials. Do not permit accumulation of removed materials on floor.

B. Cleaning Sequence:

1. Remove all visible accumulations of asbestos material and debris.

2. Wet clean all surfaces in the work area.

3. Clean all sealed impermeable containers and all equipment (excluding that needed for further cleaning) used in the work area(s) and remove from work area(s).

4. Notify Engineer for observation of cleaning to determine completeness.

5. Following acceptance of cleaning by the Engineer and following successful compliance with clearance testing requirements, carefully remove plastic sheeting.

3.5 REMOVAL OF CONTAMINATED WASTE FROM WORK AREA

Remove sealed and labeled containers of contaminated material as follows:

A. Clean plastic bags and wrapped waste (using HEPA or wet cleaning methods) while in the work area.

B. Pass cleaned plastic bags and wrapped wastes outside for loading.

C. Seal asbestos waste in leak-proof impermeable containers labeled in accordance with OSHA 29 CFR 1926 or applicable local standards.

3.6 DISPOSAL

A. Asbestos-containing waste material and debris must be packaged in accordance with the provisions of this specification and disposed at a properly permitted "Subtitle D" landfill within the State of Alabama.

B. Dispose of asbestos-containing wastes as follows:

1. Seal asbestos waste in leak-proof impermeable containers labeled in accordance with OSHA, DOT and EPA standards.

2. Carefully load containerized waste on enclosed or covered trucks for transport. Exercise care before and during transport to ensure that no unauthorized persons have access to the material.

3. Do not store containerized waste outside of the work area.

4. Allow only sealed containers to be deposited in landfill.

5. Ensure that there are no visible emissions to the outside air from site where materials and waste are deposited.

6. Retain receipts from landfill for materials disposed.

END OF SECTION 13010

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME Foy Hall, Native American Collection DATE _____

PROJECT ADDRESS Auburn University, Alabama

CONTRACTOR _____

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employer's contract with the owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you. By signing this certification, you are assuring the owner that your employer has met these obligations to you.

RESPIRATORY PROTECTION: I have been trained in the proper use of respirators and informed of the type of respirator to be used on the above referenced project. I have a copy of the written respirator protection manual issued by my employer. I have been equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: I have been trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. The topics covered in the course included the following:

Physical characteristics of asbestos
Health hazards associated with asbestos
Respiratory protection
Use of protective equipment
Reduced air pressure systems
Work practices including hands on or on-job training
Personal decontamination procedures
Air monitoring, personal and area

MEDICAL EXAMINATION: I have had a medical examination within 12 months which was paid for by my employer. This examination included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray.

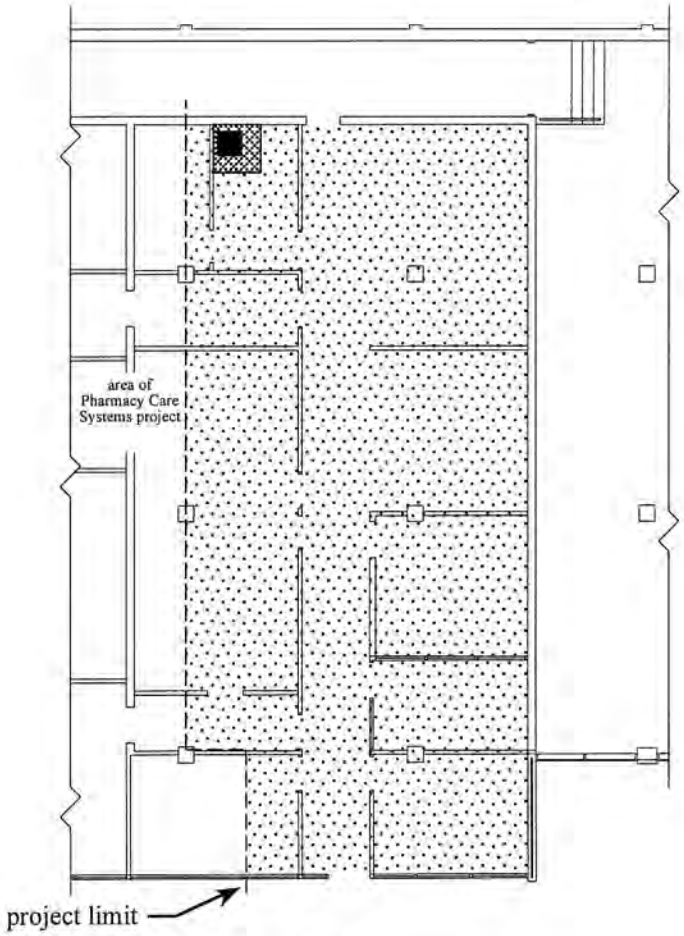
RELEASE FROM LIABILITY: I understand the health risk associated with asbestos exposure and I do covenant to hold harmless the owner, the building manager and the engineer and their officers, directors and employees from and against any and all liability related to exposure to asbestos or asbestos-containing materials except any rights I may have under the provisions of the applicable worker's compensation laws.

Signature _____

Printed Name _____

Social Security _____

Witness _____



FOY HALL
PARTIAL BASEMENT PLAN

ALABAMA REGISTERED No. 17227 ENGINEER WILLIAM HAYNES KELLEY, JR. 3-27-12

Notes:
1. There are cement-asbestos panels at the top of the west exterior wall. Those panels are not to be disturbed during the course of the project.
2. A temporary wall of 2x4 lumber and six-mil plastic sheeting must be constructed at the "project limit".
3. The contractor for this project may have to coordinate with the contractor working in the adjacent basement area.
4. Where floor tile and/or mastic extends under casework or walls, perform sufficient demolition of the casework or wall to allow removal of the underlying floor tile and/or mastic.

LEGEND

Asbestos-Containing Materials

- area of ceiling tile, floor tile, and mastic
- area of bituminous coating on pipe insulation
- sink with asbestos coating

Asbestos Removal

Foy Hall / Basement / Building No.: W0301

Native American Collection

Project Number 11-221

JOB NUMBER:	SCALE:
MA-3200	1/16" = 1'
DRAWING NO:	DRAWN BY:
3200-01	WHK
DATE:	CHECKED BY:
3-27-12	WHK

ENVIRONMENTAL-MATERIALS CONSULTANTS, INC.